ATTACHMENT 3 - WORK PLAN

3.1 Background

3.1.1 The USCR IRWMP Region

The Upper Santa Clara River IRWMP Region represents an area of approximately 654 square miles within the Santa Clara River Watershed (Watershed). The Watershed, consisting of approximately 1,634 square miles, contains the upper reaches of the Santa Clara River, which is largest natural river remaining in Southern California. The Region included in this IRWMP is located within the Upper portion of the Watershed. The Upper Basin of the Santa Clara River, as defined for the purposes of this IRWMP, is bounded by the San Gabriel Mountains to the south and southeast, the Santa Susana Mountains to the southwest, the Liebre Mountains and Transverse Ranges to the northeast and northwest, westward to the Ventura County Line.

The Upper Watershed is a logical region for integrated regional water management due to its history of cooperative water management, the topography and geography of the Region and the similarity of water issues facing agencies in the Region. Because the Santa Clara River travels through two counties, Los Angeles and Ventura, ongoing coordination of efforts is needed in order to address issues of mutual concern and benefit, such as water quality improvement. Therefore, representatives of the Region work with the Stakeholders and agencies in the lower reaches of the Watershed, which lie in Ventura County, to include them in the IRWMP planning process and to coordinate efforts to protect the Watershed.

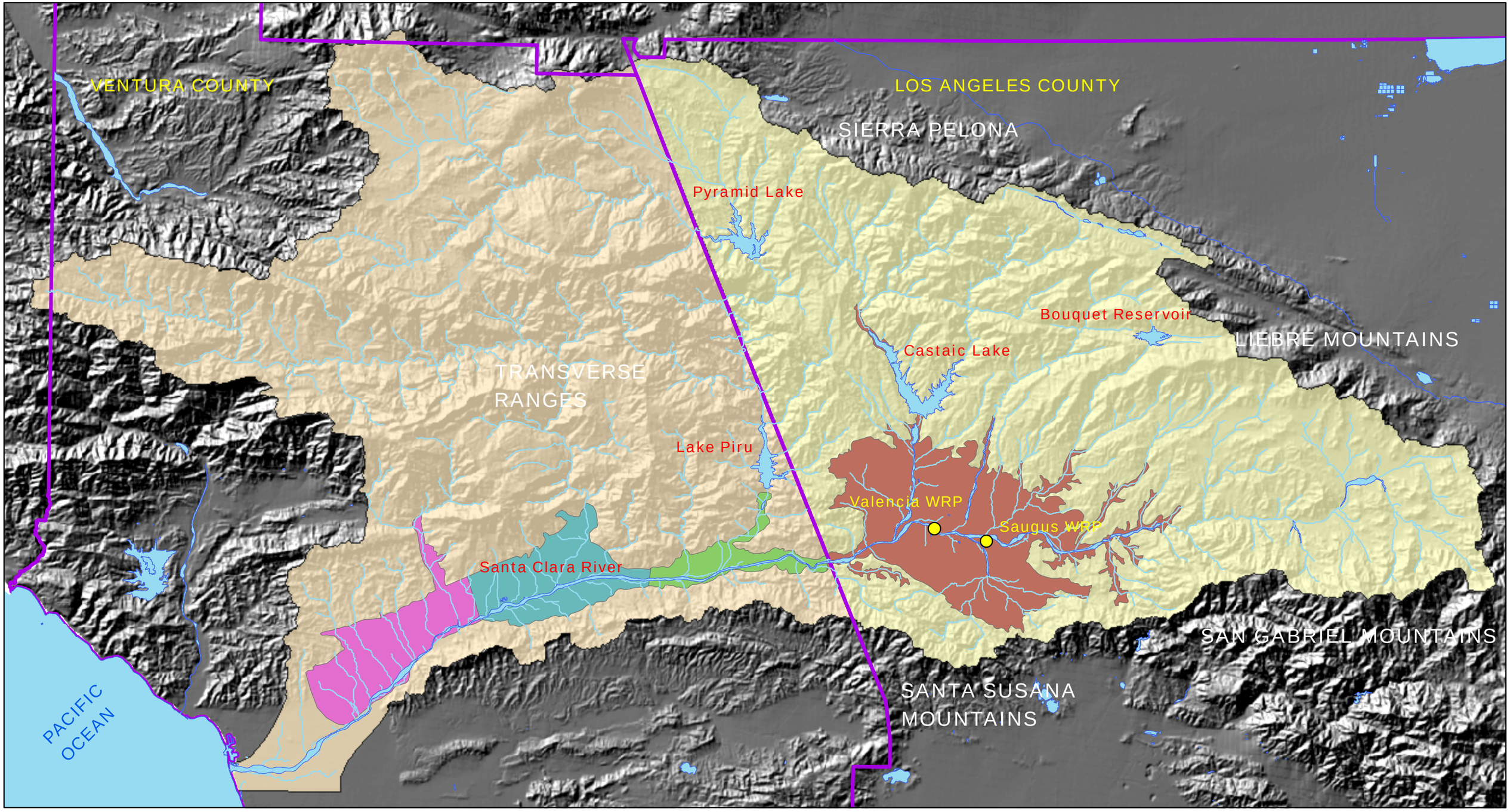
Figures 3-1 and 3-2 provide the IRWMP Region boundary and the hydrological features within the Region.

3.1.2 Regional Water Management Group

The Regional Water Management Group (RWMG) is comprised of seven members: Castaic Lake Water Agency, City of Santa Clarita, Los Angeles County Flood Control District, Newhall County Water District, Santa Clarita Valley Sanitation District of Los Angeles County, Santa Clarita Water Division of Castaic Lake Water Agency and Valencia Water Company, and one ex-officio member, the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy.

Collaboratively, this group initiated the development of the IRWMP in 2006, coordinated all meetings of the RWMG and of the Stakeholders, provided funding for the preparation of the IRWMP, provided guidance related to the data and information presented in the IRWMP, proposed projects together with interested Stakeholders, sponsored projects when appropriate and together adopted the IRWMP (the 2008 IRWMP or Plan). The work of the RWMG is guided by a Memorandum of Understanding (MOU). The formation of this RWMG has strengthened the ability of the Region to address common regional needs and challenges.

Listed below is each RWMG member, their role in the IRWMP process, and their regional water management responsibilities. Each RWMG member continues to actively participate in every aspect of the IRWMP.



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W E
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Legend

Water Reclamation Plants

Groundwater Basin

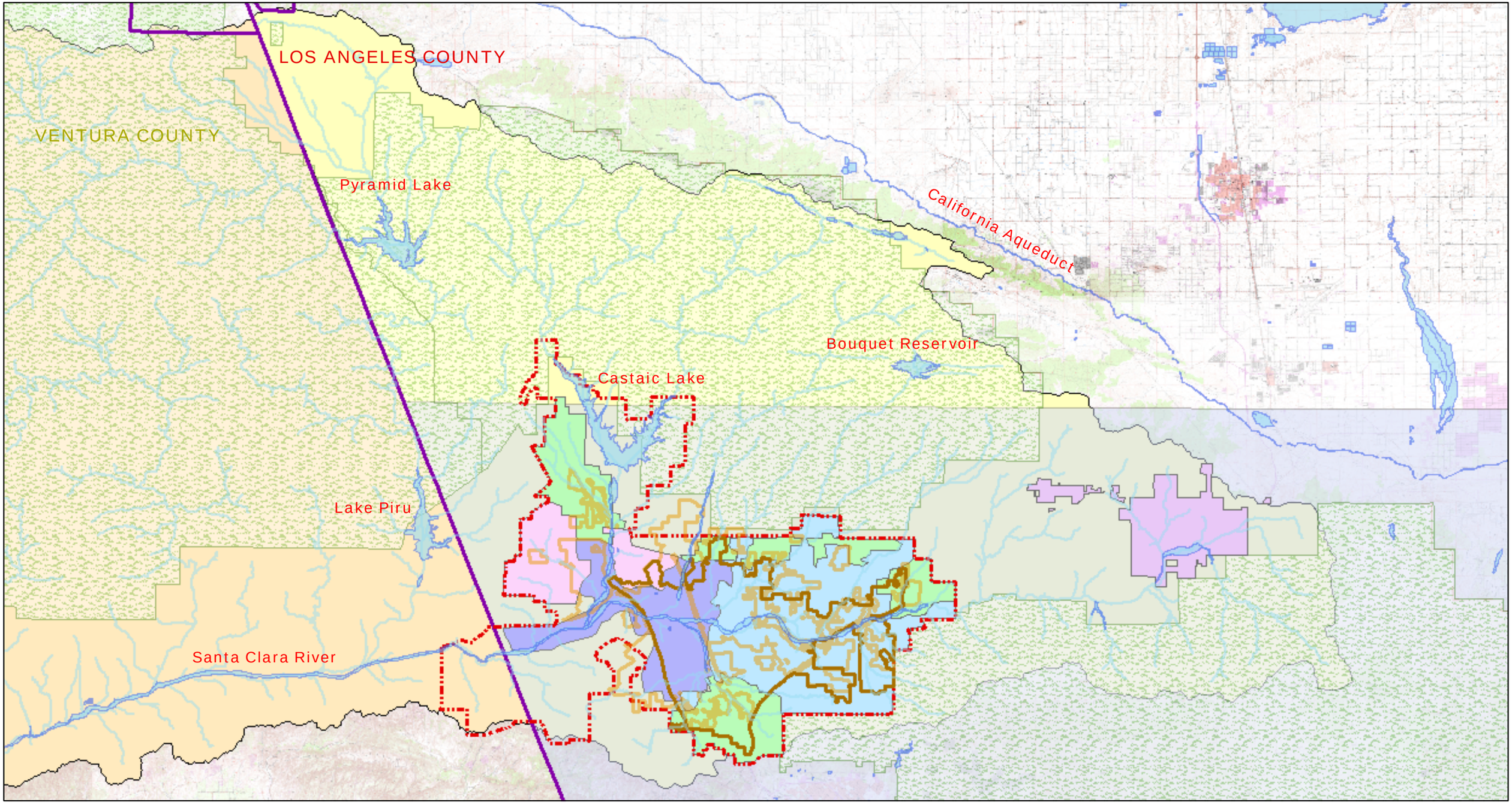
- EASTERN
- PIRU
- FILLMORE
- SANTA PAULA

Watershed

- Lower Santa Clara River
- Upper Santa Clara River

0 5 10 20 Miles

Figure 3-1
Upper Santa Clara River Watershed
Hydrologic Features



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Watershed
- Upper Santa Clara River
- Santa Clarita
- Santa Clarita Valley Sanitation District
- CLWA
- Valencia Water Company
- LA County WaterWorks District 36
- Santa Clarita Water Company
- Newhall County Water District
- LA County WaterWorks District 37
- US Forrest Service Boundary
- LA County Flood Control Boundary
- Lower Santa Clara River

0 1 2 4 6 8 10 Miles

Figure 3-2
Upper Santa Clara River Watershed/IRWMP Region

Castaic Lake Water Agency

- Serves as IRWMP contract administrator and performs supervision and oversight of the IRWMP consultant. Shared in the costs of the IRWMP consultant. Provides facilities for Stakeholder meetings. Provided necessary and relevant information, data, studies etc. as requested for inclusion into the 2008 Plan. Reviewed and commented on draft and final versions of technical reports and the IRWMP as required.
- CLWA serves as the State Water Project (SWP) wholesaler in the Santa Clarita Valley. CLWA wholesales SWP water to four local water retailers.
- CLWA coordinated all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. The Agency is actively involved in continued IRWM activities.

City of Santa Clarita

- Plays an integral role for identification, outreach and recruitment of DACs. Provides facilities for Stakeholder meetings.
- Provided necessary and relevant information, data, studies etc. for inclusion into the 2008 Plan. Shared in the costs of the IRWMP consultant. Reviewed and provided comments on draft and final versions of technical reports and the IRWMP as required.
- Municipal government that provides land use planning, secures open space for preservation, recreation, stormwater capture and treatment, and creek restoration activities within City borders.
- The City of Santa Clarita regularly attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. The City of Santa Clarita is actively involved in continued IRWM activities.

Los Angeles County Flood Control District

- Served as GIS and other mapping products liaison and maintains IRWM website. Provides facilities for Stakeholder meetings. Provided necessary and relevant information, data, studies etc. as requested for inclusion into the 2008 Plan, shared in the costs of the IRWMP. Reviewed and commented on draft and final versions of technical reports and the IRWMP as required.
- Provides flood management services within District boundaries including open channels, storm drains, check dams and debris basins. Through the Waterworks District it also serves as one of four water retailers in the Santa Clarita Valley.
- Los Angeles County Department of Public Works regularly attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. Los Angeles County Department of Public Works is actively involved in continued IRWM activities.

Newhall County Water District

- Shared in the costs of the Plan consultant. Provided necessary and relevant information, data, studies etc. for inclusion into the 2008 Plan. Reviewed and provided comments on draft and final versions of technical reports and the IRWMP as required.
- Newhall County Water District, a public agency water retailer, is one of the four water retailers in the Santa Clarita Valley.

- Newhall County Water District regularly attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. Newhall County Water District is actively involved in continued IRWM activities.

Santa Clarita Water Division of Castaic Lake Water Agency

- Provided necessary and relevant information, data, studies etc. for inclusion into the 2008 Plan. Shared in the costs of the Plan consultant. Reviewed and commented on draft and final versions of technical reports and the IRWMP as required.
- Santa Clarita Water Division, a public agency water retailer, is one of the four water retailers in the Santa Clarita Valley.
- Santa Clarita Water Division regularly attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. The Santa Clarita Water Division is actively involved in continued IRWM activities.

Santa Clarita Valley Sanitation District of Los Angeles County

- Prepared, paid for and served as administrator for a contract to provide professional facilitation services to assist in the IRWMP collaborative Stakeholder process.
- Provided necessary and relevant information, data, studies etc. for inclusion into the 2008 Plan. Reviewed and provided comments on draft and final versions of technical reports and the IRWMP as required.
- Provides wastewater treatment for the City of Santa Clarita and unincorporated communities in Los Angeles County.
- The Santa Clarita Valley Sanitation District regularly attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. The Santa Clarita Valley Sanitation District is actively involved in continued IRWM activities.

Valencia Water Company

- Shared in the costs of the Plan consultant. Provided necessary and relevant information, data, studies etc. for inclusion into the 2008 Plan. Reviewed and commented of draft and final versions of technical reports and the IRWMP as required.
- Valencia Water Company, an investor owned water retailer, is one of the four water retailers in the Santa Clarita Valley.
- The Valencia Water Company regularly attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. The Valencia Water Company is actively involved in continued IRWM activities.

San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (ex-officio member of the RWMG)

- Reviewed and commented on draft and final versions of technical reports and the IRWMP as required. Provided necessary and relevant information, data, studies etc. for inclusion into the 2008 Plan.
- Rivers and Mountains Conservancy acquires parks and open space, restores natural parks and open space, provides watershed improvements and provides low impact recreation improvements within the conservancy area (1,600 square miles in eastern Los Angeles County and western Orange County).

- River and Mountains Conservancy joined the RWMG after its formation. They attended all Stakeholder and RWMG meetings and actively participated in all decision-making during the 2008 Plan development. The Rivers and Mountains Conservancy is actively involved in continued IRWM activities.

3.1.3 Existing or Partially Completed Plan

The Upper Santa Clara River IRWMP is a complete plan that has been adopted by each of seven RWMG members, as well as collectively as the RWMG.

The dates of adoption are listed below:

- Castaic Lake Water Agency Governing Board adopted the IRWMP on July 9, 2008
- City of Santa Clarita City Council adopted the IRWMP on July 15, 2008.
- Los Angeles County Department of Public Works Governing Board adopted the IRWMP on August 5, 2008.
- Newhall County Water District Governing Board adopted the IRWMP on July 10, 2008.
- Santa Clarita Water Division Governing Board adopted the IRWMP on July 9, 2008.
- Santa Clarita Valley Sanitation District of Los Angeles County Governing Board adopted the IRWM plan on July 24, 2008.
- Valencia Water Company Governing Board Adopted the IRWM plan by Board of Directors on July 11, 2008.
- Rivers and Mountains Conservancy (ex-officio member of the RWMG) Governing Board adopted the IRWM plan on June 23, 2008.
- The RWMG formally adopted the IRWMP on July 30, 2008, at a public meeting held in Santa Clarita, California.

3.1.4 Stakeholder Public Process

A listing of all the other Stakeholder participants (federal/state/local agencies and participants in general), excluding the RWMG, that assisted in the development of the IRWMP is provided in Table 3-1. Collectively, these Stakeholders represent land use agencies, town councils, recreation and open space entities, municipal and county government agencies, business organizations, regulatory and resource agencies, and non-profit organizations.

Stakeholders were identified through their involvement or interest in water, the environment, and similar projects in the past. Brainstorming sessions were used to identify potential Stakeholders. These entities were sent a letter asking for the participation in the IRWMP process. These groups in turn were asked to identify other potentially interested groups. Through this process a varied and broad group was invited to become Stakeholders and this group included entities, such as well owners from the upper part of the region that were not necessarily involved with past efforts. In order to capture unknown but potentially interested parties, notices and paid advertisements were

placed in the local newspaper and were also included in materials provided at local community events.

The level of participation from any Stakeholder in developing and implementing the IRWMP varied depending on their time constraints and/or interests. The role(s) played by these Stakeholders together with the RWMG members included:

- participated in regularly scheduled Stakeholder meetings,
- provided a single vote to represent their agency/organization/interest at Stakeholder meetings,
- reviewed and provided comments on the draft document materials,
- helped develop the regional objectives,
- helped develop the water management strategies,
- proposed and, if appropriate, sponsored projects,
- provided input to project prioritization criteria, and provided input to proposed project ranking, and helped identify opportunities for integration.

TABLE 3-1
USCR IRWMP STAKEHOLDER GROUP

USCR IRWMP Stakeholder	Agency Responsibility
Municipal and County Government Agencies	
City of Santa Clarita	Provides open space and land use planning as well as stormwater capture and treatment and creek restoration within City borders. Also serves as one of four water retailers in the Santa Clarita Valley.
County of Ventura	County government that provides public infrastructure, environmental and land use planning services as well as permitting and support for the Ventura County region.
Los Angeles County Department of Public Works (representing the Flood Control and Waterworks Districts)	Provides flood management services within the District's boundaries.
Los Angeles County Department of Regional Planning	Improves the quality of life through innovative and resourceful physical and environmental planning, balancing individual rights and community needs.
Lake Elizabeth Mutual Water Company	Privately owned water supply company
Sierra Pelona Mutual Water Company	Privately owned water supply company
Elected Official Offices	Los Angeles County Supervisor's Office Michael D. Antonovich, Fifth District
	City of Santa Clarita, City Council
	Office of State Senator George Runner - District #17
	Office of State Assemblyperson Cameron Smyth - District #38

USCR IRWMP Stakeholder	Agency Responsibility
Business Organizations	
Building Industry Association	Promotes and protects the industry to ensure members' success in providing homes for all southern Californians.
Newhall Land and Farming Company	Responsible for planning and developing the master planned communities of Valencia and Newhall Ranch in the Santa Clarita Valley. The company also manages farm land in both Los Angeles and Ventura Counties
Atkins Environmental	A consulting firm that serves as a resource for environmental, health and safety issues. Seeks to balance the demand for resources with the needs of the community.
Valley Crest Tree Company	Producer of containerized specimen trees to landscape contractors, architects and developers. Also offers expert tree relocation, preservation and storage services.
Recreational and Open Spaces Entities	
The Nature Conservancy	Preserves the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.
Los Angeles County Department of Parks and Recreation	Provides recreational opportunities that promote a healthy lifestyle and strengthen communities. Enhances community environment by acquiring, developing and maintaining County parks, gardens, golf courses, trails and open areas.
Mountain Recreation and Conservation Authority	Acquires, develops and conserves additional park and open space lands with special emphasis on recreation and conservation projects, the protection and conservation of watersheds and the development of river parkways.
Regulatory and Resource Agencies - State and Federal	
California Department of Fish and Game	Manages California's diverse fish, wildlife and plant resources, and the habitats upon which they depend for their ecological values and for their use and enjoyment by the public.
California Department of Transportation	Responsible for State-wide transportation infrastructure
California Department of Water Resources (DWR)	Manages the water resources of California in cooperation with other agencies to benefit the State's people, protects, restores, and enhances the natural and human environments.
LA Regional Water Quality Control Board	Preserves and enhances the quality of California's water resources for the benefit of present and future generations.
Natural Resources Conservation Service	Provides products and services that enable people to be good stewards of the nation's soil, water and related natural resources on non-federal land.

USCR IRWMP Stakeholder	Agency Responsibility
US Army Corps of Engineers	Provides engineering services for the nation that includes navigation, flood control, environmental protection and disaster response.
US Fish and Wildlife Service	Conserves, protects and enhances fish, wildlife and plants and their habitats for beneficial uses for all people.
US Forest Service - Angeles National Forest	Endeavors to sustain the health, diversity and productivity of the nation's forests and grasslands to meet the needs of present and future generations.
Non-Profit Organizations and Other Stakeholders	
Acton Town Council	Provides a local voice in community development. Ensures the continuation of Acton's country lifestyle.
Association of Water Agencies of Ventura County	Develops and encourages cooperation among entities for the development, protection, conservation and improvement of the total water resources for Ventura County.
Agua Dulce/Acton Country Journal	Serves as a resource for existing, new and future residents of the Agua Dulce/Acton community.
Agua Dulce Town Council	Serves as a common meeting place for the free expression of views and diverse opinions concerning issues effecting Agua Dulce. Serves as Agua Dulce's representative; speaks on behalf of the community; reviews public and private proposals that may affect the community.
Castaic Area Town Council	Acts as an advisory board to present community points of view to the Los Angeles County Board of Supervisors and various County departments.
Santa Clarita Organization for Planning the Environment	Promotes, protects, and preserves the environment, ecology and quality of life in the Santa Clarita Valley.
Santa Clarita Valley Well Owners Association	Protects rights as private well owners and collective parity as Stakeholders in the management of the areas' subterranean water resources; educates members in matters relative to water rights, quality, resources, historical data and any other information relevant to owning and maintaining a private water well system; advocates on behalf of the rights of private well owners collectively and individually.
University of California Cooperative Extension Service	Public educators and outreach for welfare, development and protection of California agriculture, natural resources and people.
Ventura County Resource Conservation District	Provides assistance to help both rural and urban communities to conserve, protect, and restore natural resources.
West Ranch Town Council	Acts as an advisory board to present community points of view to the Los Angeles County Board of Supervisors and various County departments.

3.1.5 Disadvantaged Community Outreach Process

During development of the 2008 Plan, no communities that met the definition as defined in the Water Code of a Disadvantaged Community (DAC) were identified, but there are pockets of lower income areas that may issues similar to DACs, such as inability to access to information, for example. In the spirit of providing "a safe, clean, affordable, and sufficient water supply to meet the needs of California residents, farms, and businesses", a DAC Outreach Subcommittee was formed along with the development of a DAC outreach strategy to reach these communities.

As part of this strategy, the RWMG contacted other groups known to deal with DAC issues, such as the City of Santa Clarita Housing Department and the Newhall Community Center. Individuals working on the IRWMP visited the Newhall Community Center and spoke with their staff. Center staff suggested the RWMG work with their teacher of the English as a Second Language (ESL) class. A professional outreach consultant was utilized to prepare materials in both English and Spanish and the Newhall Community Center teacher used those materials as part of the course work. This was a very effective way to communicate these issues rather than simply placing an article in a publication that we could only hope people would read. This was face to face interaction being delivered by someone this group of people had an existing relationship with and trusted. It also afforded the opportunity to expand the number of people who received the information. The Newhall Community Center is extensively used and the community who use it takes great pride in the programs that are offered there. When the Center was being planned, the community was an integral part of the design and location of the building. It is an extended family for many that use it.

In addition to teaching this IRWMP information in the ESL classes, Stakeholders presented IRWMP information at the Emergency Expo and Arbor Day events. Both are City of Santa Clarita events, attended by thousands of people, and were very successful in engaging the community on IRWMP issues. Open channels of communication and good working relationships have also been established between agencies/companies of the Santa Clarita Valley and the Tataviam Band of Mission Indians due to several development projects involving their lands.

These specific efforts of direct emails, mailings, face to face interaction, event participation, classroom instruction, flyers, notices, surveys, and presentations were performed to get environmental groups, conservancy groups, well owner groups, DACs, water suppliers, municipalities, sanitation districts, flood control districts, American Indian Tribes, developers, landowners, adjacent IRWM areas, State agencies, elected representatives, and the like to take part in the IRWMP. With the involvement of the Stakeholders, the facilitation meetings, the tracking of Stakeholder comments, and the efforts to incorporate those comments into the IRWMP the group has been able to incorporate a broad range of input and ideas.

Stakeholders, including DACs, were and continue to be able to add projects to the list of Candidate Projects for implementation of the IRWMP. These types of outreach efforts are continual efforts as part of the USCR IRWMP and will be throughout the IRWMP Update.

3.1.6 Identification of Water-Related Objectives and Conflicts

This area has a history of collaborative multi-agency/jurisdictional efforts to resolve conflicts and reach common goals. A good example of this is the commitment to developing the regional Urban Water Management Plan (UWMP) by CLWA and its four retailers; the UWMP is currently

undergoing the 2010 Update. The IRWM process has been a great addition to the work already occurring in this region and will assist in furthering these efforts.

Over the course of the Stakeholder meetings to date, many issues and topics were discussed. However, the issues raised can be summarized into five significant themes:

1. Increasing water demand while imported water supplies become less reliable. There is a need for a comprehensive water supply portfolio and the desire exists to find alternative water sources.
2. Difficulty in maintaining open space and habitat areas given population growth and increased urbanization.
3. A variety of water quality issues, including perchlorate contamination, and TMDLs for chloride and nitrate compounds.
4. Runoff and drainage issues in the more rural areas that result in negative effects to the communities and areas downstream.
5. Runoff and drainage issues related to urbanizing areas in the floodplain.

Identification of these resource management issues, through the IRWMP planning process, led to the identification and establishment of the IRWMP objectives. The objectives were developed through the same collaborative Stakeholder process that led to their inception. During the course of four Stakeholder meetings, the IRWMP participants brainstormed on the goals, issues, and conflicts facing the Region. In drafting, Stakeholders determined that it was important that the objectives be measurable, with existing conditions being quantified if possible so that change/progress could be reasonably ascertained at a later date.

Table 3-2 presents the objectives for the Region, the definition of each objective, and proposed means for measuring progress toward achieving each objective as the IRWMP is implemented.

Now that plan goals and objectives have been adopted in the 2008 Plan, the RWMG is tasked with monitoring achievement toward plan objectives, and once an objective is achieved, a revised or replacement regional objective will be developed as needed through the IRWMP planning process.

TABLE 3-2
USCR IRWMP OBJECTIVES

Reduce Water Demand: Implement technological, legislative and behavioral changes that will reduce user demands for water.	Ten (10) percent overall reduction in projected urban water demand throughout the Region by 2030 through implementation of water conservation measures.
	Replace up to 4,300 outdated water meters per year.
Improve Operational Efficiency: Maximize water system operational flexibility and efficiency, including energy efficiency.	With assistance of local energy utility, perform electrical audit on all wholesale and purveyor water facilities once every five years.
	Reduce, on an agency-by-agency basis, energy use per acre-foot treated and delivered.

***Increase Water Supply**:* Understand future regional demands and obtain necessary water supply sources.	Increase use of recycled water by up to 17,400 acre-feet per year (AFY) by 2030, consistent with health and environmental requirements.
	Implement long-term transfer and exchange agreements for imported water with other water agencies, up to 4,000 AFY by year 2010 and 11,000 AFY by year 2030.
	Increase water supply as necessary to meet anticipated peak demands at buildout in the Los Angeles County Waterworks District (LACWWD) No. 37 service area (~0.74 million gallons per day [mgd]) and peak demands at buildout in the Acton and Agua Dulce areas (up to 12.16 mgd).
	Capture and recharge 5,000 to 10,000 AFY of urban and storm water runoff in a manner consistent with the pending update to the regional groundwater flow model and Basin Yield Study.
Improve Water Quality: Supply drinking water with appropriate quality; improve groundwater quality; and attain water quality standards.	Meet all drinking water standards.
	Prevent migration of contaminant plumes.
	Comply with existing and future Total Maximum Daily Load (TMDLs).
***Promote Resource Stewardship**:* Preserve and improve ecosystem health; improve flood management; and preserve and enhance water-dependent recreation.	In areas of the floodplain where invasive species have taken hold, reduce invasive species to 40% or less cover of the understory and canopy in years 1 through 5. Every five years reduce by half the percentage of invasive species.
	In years 20 and beyond, keep invasive species to 2% or less. Keep invasive species to 2% or less in the upper reaches and tributaries where little to no invasive plants are currently located.
	Acquire acreage or conservation easements for 10,900 acres of remaining proposed South Coast Missing Linkage.
	Purchase private property from willing sellers in the 100-year floodplain.
	Acquire 12 miles along the Santa Clara River for development as a recreational trail/park corridor.

3.1.7 Criteria for Developing Regional Priorities

The process for developing regional priorities began with educating Stakeholders as to how the IRWMP goals and objectives are related to the overall goals of the statewide California Water Plan. Once that education took place Stakeholder input determined which of the water management strategies in the California Water Plan were applicable to the Region. After that the Stakeholders were ready to consider what objectives, strategies and projects were needed, what the priorities of the Region are, and how the various entities can work together to achieve them.

3.1.8 Data and Technical Analysis Collected/Performed and Data Management

The IRWMP documents the results of a comprehensive 16-month effort of over 10 public agencies with varying water and flood management responsibilities, as well as numerous other interested entities. The Plan was prepared using information and guidance provided by the RWMG and Stakeholder group. The Plan in turn, is used by these same entities to guide and support water management efforts as the group moves forward to meeting its defined objectives.

The 2008 Plan utilizes data from multiple water resource management plans, facilities plans, master plans, land use plans, resource conservation plans, and water quality plans. The 2008 plan also benefited from the regular monitoring of groundwater, surface water, and water quality parameters.

During development of the IRWMP, the Stakeholders devoted a number of meetings to the discussion of existing data, data formats, and the need for additional information. Identification of gaps and deficiencies in existing sources of information was a priority, as these data gaps represent information crucial to a greater understanding of the Region for future projects and management actions. One of the main gaps/deficiencies identified was a lack of model(s) that can simulate the existing and future land uses upstream to forecast changes to Santa Clara River flood flows and low flows as well as sediment yield and transport. And while there is an existing system in place within the Region for collecting data on groundwater and surface water supplies and water quality, there is no current model or framework with which to bring this information together to answer these type of questions being asked regarding flood flows, sediment yield, and fate and transport.

As described in the existing Plan, IRWMP updates are a defined task within future IRWMP governance. This IRWMP is a dynamic document and is part of an ongoing local effort to achieve integrated local water management. The process, through Stakeholder participation and plan revisions, will continue for many years and will be an effective mechanism for addressing the water management issues facing the Region. As a consequence, IRWMP objectives, regional priorities, and statewide priorities will continue to be reviewed for relevance and modified as needed to ensure the overall IRWMP reflects regional changing needs, to allow for incorporation of adaptive tools, and continues to be effective.

Additionally, Candidate Projects will be reviewed and evaluated on a regular (at least every five years) basis to ensure that current plan objectives will be met and that the resulting Plan Projects offer the greatest benefit possible. Periodically, a new set of Plan Projects will be selected to address revised IRWMP objectives and State and regional priorities. This ongoing review and update allows the plan to undergo “adaptive management”, e.g., allows the IRWMP to evolve in response to changing conditions and as better data is developed.
IRWMP revisions will result in:

(1) An updated evaluation of information and data related to watershed conditions

(2) An evaluation of projects/actions and their contribution to meeting IRWMP objectives

(3) Revised objectives, strategies, and projects based on new conditions and past project successes

The institutional framework of the IRWMP will allow the IRWMP to continue to collect, disseminate, and react to technical information and data, as well as identify data gaps. In fact, the Salt and Nutrient Management Plan proposed as part of the IRWMP Update will provide data required by the State's Recycled Water Policy, and with the Climate Change Technical Study, also proposed, help to fill data deficiencies identified by the Stakeholder group.

3.1.9 Employment of Integrated Resource Management Strategies

Within the IRWMP framework, Stakeholders not only identify needs and objectives for the Region, but identify strategies to address these needs. Resource management strategies are implemented through specific projects undertaken by Stakeholders in the Region. As part of the 2008 Plan, Stakeholders were asked to propose projects that met the identified objectives and strategies. Over several workshops, Stakeholders presented their project ideas. A professional facilitator led the group through discussions about how to improve and integrate projects. This had a two-fold effect: (1) projects were tailored to best achieve regional needs and, (2) Stakeholders were given a forum through which to collaborate on projects.

Many projects will seek grant funding through the Proposition 84 grant program and for this reason the Stakeholder group undertook a project prioritization process. However, another purpose of the Stakeholder group was to identify other funding mechanisms to facilitate implementation of strategies and projects. Further, by facilitating teaming among Stakeholders, the IRWMP format allows multiple entities to share the burden of project implementation, making it more likely the projects will go forward with the intent that highest-ranked projects represent those projects that achieve the highest benefit to the Region. The prioritization of projects is based upon a three-step screening process: Initial Project Sorting; Project Development and Refinement; and Secondary Project Evaluation (see Figure 3-3). However, all projects submitted will be maintained on the Candidate Project list, and the list will be updated on a regular basis as new projects are submitted and as projects are developed through time and re-prioritized.

Initial Project Sorting/Step 1 Prioritization

This process was designed to meet two separate but related objectives: (1) to enhance and develop projects in order to best meet regional objectives; and (2) to select the best suite of projects in order to maximize funding opportunities for the Region. Stakeholders expressed a desire to have projects ranked according to how well they met the objectives agreed upon for the Region. Based on this input a consultant did an initial sorting of Candidate Projects. Each project was assigned points; one point was awarded for each objective that the project would meet (i.e., reduce water demand, improve operational efficiency, increase water supply, improve water quality, and promote resource stewardship). Candidate Projects were sorted so that those projects that met the most objectives appeared at the beginning of the project list. Following this exercise, Candidate Projects were further parsed and sorted based on how well they met a secondary set of criteria:

- Lack of conflict with other objectives.
- Lack of downstream impacts.
- Compatibility with other planning documents for the Region.

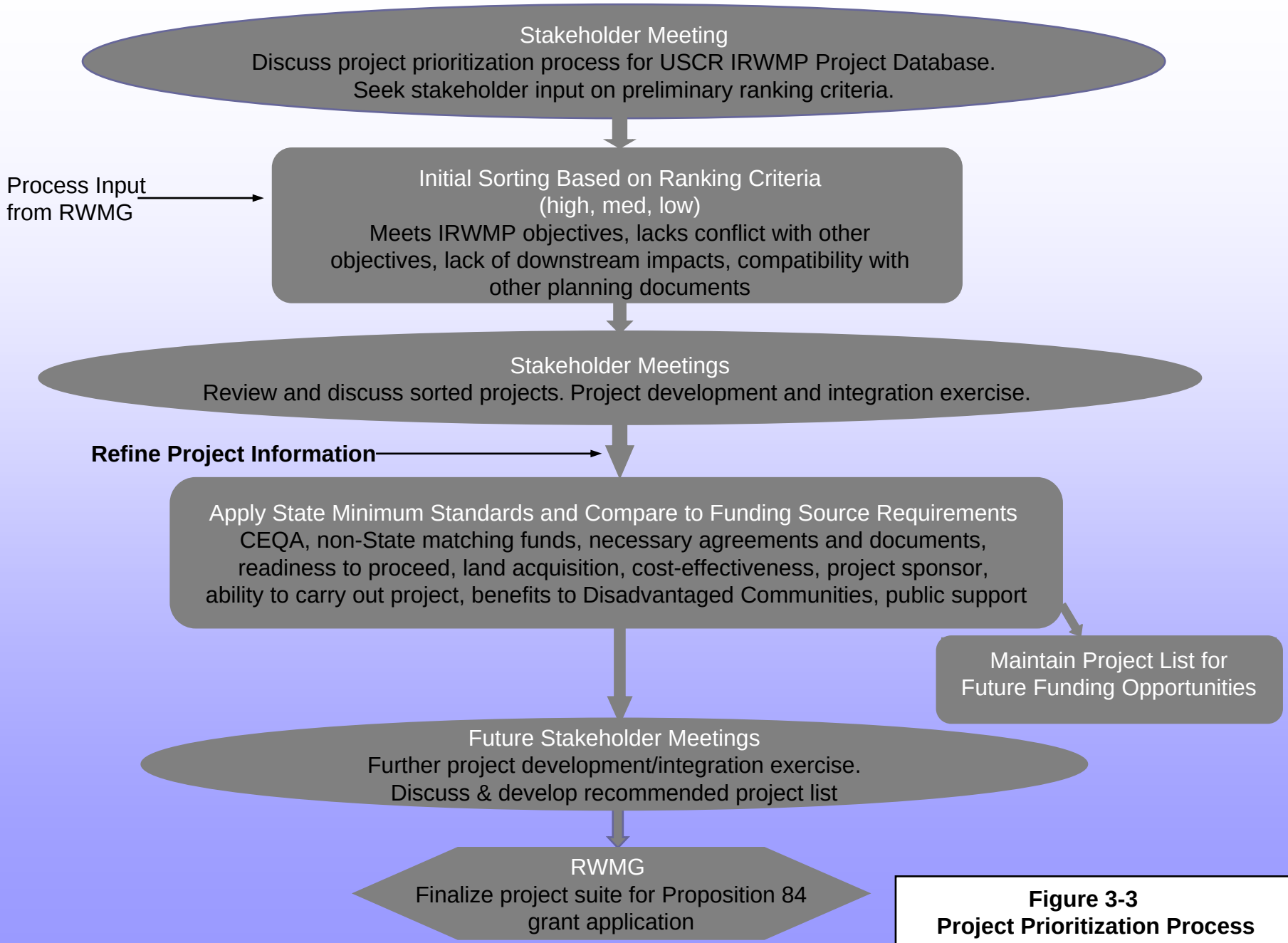


Figure 3-3
Project Prioritization Process

During the Stakeholder meeting process, several project proponents observed commonalties in their projects and decided to form partnerships and combine their individual projects into a single enhanced project ("integration"). Using these primary and secondary criteria the RWMG sorted the Candidate Projects into "high," "medium," and "low" categories. Stakeholders provided input on the sorting process, the criteria used for sorting, and whether or not a given candidate project met a given criteria. The Stakeholders also discussed means to *integrate* particular Candidate Projects. The initial sorting process was completed and was presented to the Stakeholders. In addition, several projects were categorized as "Pending Further Development." These projects have been put into this category for a variety of reasons:

- Lack of sufficient project information to be evaluated.
- Lack of appropriate sponsor.
- Received too late in the process to be fully evaluated.

Over time, as particular projects become more refined, it is likely they could be re-categorized (e.g., moved from the "low" category to the "high" category). In addition, over time, new Candidate Projects will be added and ranked according to the established criteria. The list of Candidate Projects is intended to continually grow and change as projects are completed and new project concepts are added.

Refinement/Step 2 Prioritization

It will be necessary to "pare down" the list of Candidate Projects shown in the IRWMP and develop a list of projects specific to IRWMP implementation and appropriate funding applications. This second step in the prioritization process will first be applied to projects rated "high" in the project sorting exercise. If no "high" projects remain or are ready to be implemented, then projects rated "medium" will be taken through the second step. This step will be based on how well Candidate Projects meet the following State Minimum Standards and readiness to proceed criteria:

- Environmental Compliance and Other Permitting.
- Necessary Planning Documents (i.e., UWMP, Groundwater Management Plan, AB1420).
- Sponsor Authority and Funding Match.
- Readiness to Proceed.

In anticipation of project refinement, Stakeholders were asked to complete project information "long forms" in which as much detailed project information as available was solicited, including such information as the projected benefit/cost effectiveness of each project. These long forms, updated as necessary, will provide the basis for completing this second step in the prioritization process.

Selected Plan Projects

The 2008 Plan was adopted with 39 projects that were sorted based on consistency with regional objectives. The RWMG solicited DWR's input on the IRWMP, and based on that review, the

Proposition 84 Guidelines, and requirements of any enacted legislation, the prioritization process will be finalized and a suite of projects (i.e., "Plan Projects") selected for local implementation or inclusion in applications to various funding sources. During regular updates of the IRWMP, all Candidate Projects will be evaluated and prioritized and a new list of Plan Projects generated.

Following selection of Plan Projects the IRWMP will be revised as necessary to:

- Provide a timeline for active or planned projects
- Describe linkages and the interdependence of Plan Projects in order to maximize integration of water management strategies
- Identify any coordination of Plan Projects with State and Federal agencies
- Describe the relationship of Plan Projects to local planning, IRWMP program preferences, and California Water Plan Strategies

3.1.10 Implementation of the IRWMP and Expected Impacts and Benefits

The IRWMP is currently being implemented by a Governance Subcommittee of the RWMG. The RWMG formed a governance subcommittee based on the need to develop a more formal arrangement to facilitate the sustained development of regional water management and the IRWMP process, both now and beyond the state grant IRWM funding programs. The Governance Subcommittee recommended roles/responsibilities for all participants in the IRWMP process that outline how decisions are made, and those recommendations (after review, discussion, and edits) were adopted in the 2008 Plan. The Region intends to formalize the roles/responsibilities outlined below within the IRWMP Update. It should be noted, however, that although the roles/responsibilities have not been formalized yet into an MOU or other legal document, what follows is the general description of how decisions have been and are currently being made.

Financing RWMG and IRWMP activities - One expectation of becoming a RWMG member is to assist (staff time, financial) with the preparation/update, and other administrative activities undertaken by the RWMG (holding Stakeholder meetings, developing the IRWMP, etc.). This expectation is not meant in any way to exclude any entity from having a "vote" if the entity does not have an ability to pay. On the contrary, having the RWMG members bear the burden of the cost of the IRWMP program is intended as a benefit to all Stakeholders, to allow everyone's participation and voting at Stakeholder meetings without regard to their ability to contribute financially, while still guaranteeing enough funding to implement the IRWMP. One example of the necessity to make an exception to the expectation of funding contributions is the ex-officio membership by the Rivers and Mountains Conservancy (RMC). The budget problems facing the State of California have severely impacted RMC's ability to attend meetings, due to staffing layoffs. Every effort is being made to continue to inform and seek the input from the RMC, without regard to their ability to fund their participation, based solely on their importance to the Region. To date, the RWMG has not sought funding from Stakeholders, but based on economic realities, the long term funding strategy for this Region may include requesting contributions from the Stakeholders.

Implementing plan activities - The expectation is that the same Stakeholder process that guided the selection of water management strategies applicable to the Region, regional goals and objectives, a project prioritization framework, and Disadvantaged Community outreach, will be used to

implement the Plan. First steps will include formalizing the MOU to incorporate the roles/responsibilities of the various participants, selecting plan projects, updating the plan to address DWR's comments on the review of the 2008 Plan, and seeking additional funding for IRWMP activities either from the RWMG, Stakeholders, and/or state and federal grants.

Making future revisions to the IRWM plan - The term of this IRWMP is 20 years from initial adoption (July 2008), with updates and subsequent readoption occurring a minimum of every five years within that 20 year timeframe, unless one of the following events triggers re-adoption within 1 year of the event, prior to the scheduled five-year interval: 1) significant change in conditions (as defined by the RWMG with input from the Stakeholders), 2) achievement of an objective which necessitates setting a revised or replacement regional objective, 3) the need (as determined by the RWMG with Stakeholder input) to set new regional objectives. The IRWMP is intended to be adopted by RWMG members and any Stakeholder with an interest in the Region's watershed issues (Stakeholders are encouraged to either adopt the IRWMP, provide a resolution in support of the IRWMP, or provide a letter in support of the IRWMP, whichever is appropriate based on the type of entity). Because the IRWMP is envisioned to "live through time" regardless of the makeup or turnover of the RWMG, a change in RWMG membership would not trigger re-adoption of the IRWMP. Additionally, modifying or updating the IRWMP in order to qualify for funding through a funding agency would not automatically trigger readoption of the IRWMP.

The primary benefit of the IRWMP process is the supportive collaborative regional planning and the facilitation of partnerships. Because the IRWMP fosters coordination it has resulted in greater efficiencies (e.g., efforts are not duplicated, information and experience is shared). The regional planning effort ensures that all potential components of watershed planning are considered rather than one particular area or project type dominate. Regional planning improves the likelihood that benefits and impacts are shared instead of one group or area reaping the benefits while another bears the impacts. Full implementation of the IRWMP will result in multiple benefits specifically in the areas of water quality, demand management, resource stewardship, water supply, and operational efficiency.

In the near-term the IRWMP update effort will include a Climate Change Technical Study in accordance with Assembly Bill (AB) 32 which is calling for statewide greenhouse gas emission levels be achieved by 2020, and the basis for development of a Salt and Nutrient Management Plan in accordance with the State's Recycled Water Policy. For example, in August 2003, a Nitrogen Compounds TMDL for the Santa Clara River watershed was mandated by the LARWQCB. The specific pollutants of concern include ammonia, nitrate, nitrite, low dissolved oxygen and organic enrichment. A steering community comprised of LARWQCB, Los Angeles County Sanitation District, Los Angeles County Department of Public Works, Cities of Santa Paula, Fillmore and Santa Clarita, Newhall Land and Farming, Coastal Conservancy, Friends of the Santa Clara River, Ventura County Farm Bureau, Ventura County Flood Control, a Ventura County Supervisor, DWR and United Water Conservation District worked collaboratively to compete a study that resulted in a TMDL and a Waterbody Restoration Award from the RWQCB for using an inclusive approach for developing a practicable and widely supported regulation.

3.2 Meeting Current IRWM Plan Standards

The Upper Santa Clara River IRWMP currently meets all of the former Proposition 50 IRWM Guidelines, as well as meeting many of the new Proposition 84 Guidelines. Through this IRWM Planning Grant application, funds are being requested for those Proposition 84 Standards that need further development; specific development and attention to the climate change standard which will result in updates throughout the Plan; and specific development and attention to one of the IRWMP objectives related to water quality through development of a Salt and Nutrient Management Plan for the Upper Santa Clara River watershed.

The following discussion identifies, by Proposition 84 Standard, where the 2008 Plan needs updating in order to become a compliant plan. This is also summarized in Table 3-3. The objective of this section is not to demonstrate how the current plan meets the new standards, as this may be the focus of upcoming Implementation Grant applications. Therefore, only references to where the information can be found within the 2008 Plan and Region Acceptance Process (RAP) application are provided as demonstrable evidence and both documents are provided as attachments to this Work Plan (Att3_PG1_WorkPlan_USCRRAP_2of4 and Att3_PG1WorkPlan_2008Plan_3of4). The objective is to identify what needs updating within the existing plan, so that the work plan tasks can meet those deficiencies.

TABLE 3-3
HOW THE UPPER SANTA CLARA RIVER IRWMP MEETS THE CURRENT PROPOSITION 84 STANDARDS

PROPOSITION 84 STANDARD	REFERENCE	UPDATE NEEDED	WORK PLAN TASK
GOVERNANCE	IRWMP (Chapter 5, Sect. 5.5, 7.2) & RAP (No. 5.1, 5.2, 5.3, 5.4)	Incorporate RAP language into IRWMP	Task 4
REGION DESCRIPTION	IRWMP (Chapter 2) & RAP (No. 7.2 - 7.4, & 8.1 - 8.5)	Incorporate RAP language into IRWMP, coordination, Climate Change	Task 2, 4
OBJECTIVES	IRWMP (Chapter 3, Sect. 3.1, 3.2)	Update based on ranking of climate change vulnerabilities, S/N Plan	Task 2, 3, 4
RESOURCE MANAGEMENT STRATEGIES	IRWMP (Chapter 4, Sect. 4.2)	Update based on effects of climate change	Task 2, 4
INTEGRATION	IRWMP (Chapter 5, Sect. 5.1, 5.2)	No specific update	NA
PROJECT REVIEW PROCESS	IRWMP (Chapter 5, Sect. 5.1) & RAP (No. 5.1, 5.2)	Incorporate climate change	Task 2, 4
IMPACT AND BENEFIT	IRWMP (Chapter 5, Sect. 5.3, 5.4) & RAP (No. 5.5)	Update based on DAC, low income outreach strategy	Task 2, 3, 4
PLAN PERFORMANCE AND MONITORING	IRWMP (Chapter 7, Sect. 7.1.2, 7.1.3, 7.2) & RAP (No. 5.2)	Incorporate climate change DMS, lessons learned	Task 2, 4

PROPOSITION 84 STANDARD	REFERENCE	UPDATE NEEDED	WORK PLAN TASK
DATA MANAGEMENT	IRWMP (Chapter 7, Sect. 7.1)	Data Management System	NA
FINANCE	IRWMP (Chapter 6)	Update funding programs, O&M	Task 4
TECHNICAL ANALYSIS	IRWMP (Chapter 7, Sect. 7.1)	Update reports, incorporate climate change, data gap	Task 2, 4
RELATION TO LOCAL WATER PLANNING	IRWMP (Chapter 7, Sect. 7.1.1, Chapter 8, Sect. 8.1)	Incorporate climate change	Task 2, 4
RELATION TO LOCAL LAND USE PLANNING	IRWMP (Chapter 8), & RAP (No. 2.3, 2.4)	Incorporate climate change	Task 4
STAKEHOLDER INVOLVEMENT	IRWMP (Chapter 1, Sect. 1.3) & RAP (No. 2.1 – 2.4, 3.1 - 3.4, 4.1)	Incorporate RAP language into IRWMP	Task 4
COORDINATION	IRWMP (Chapter 8) & RAP (No. 2.4, 3.4)	Incorporate RAP language into IRWMP, and climate change	Task 2, 4
CLIMATE CHANGE	IRWMP (Chapter 2, Sect. 2.9.3)	Revisions throughout IRWMP	Task 2, 4

3.2.1 Governance

The Governance Structure discussion contained within the existing IRWMP, supplemented with the recent descriptive narrative of the Governance Structure provided in the RAP application, together meet the majority of the new standard. The IRWMP will be updated with the text from the RAP application in the IRWMP Update.

3.2.2 Region Description

The Region Description contained within the existing IRWMP, supplemented with the recent descriptive narrative of the Region provided in the RAP application, together meet the majority of the new standard. The 2008 Plan will also be updated with the ongoing efforts within the watershed and from other adjacent planning regions. Agencies and other Stakeholders from the Los Angeles County portion of the watershed regularly attend and provide input to meetings of the Watersheds Coalition of Ventura County and Greater Los Angeles IRWMPs; likewise agencies and other Stakeholders from the Ventura County portion of the watershed have been invited to, have attended, and have provided input to meetings of the Upper Santa Clara River IRWMP.

The Upper Santa Clara River and WCVC IRWMP regions are currently cooperating on a number of programs and working together through our respective Stakeholder processes, planning efforts and projects and programs on which we are collaborating to ensure that the entire watershed is protected and managed appropriately, despite the division of the county boundary. These updates will be included in the IRWMP Update. A new land use map will also be prepared. In order to be complete, the region description also requires a discussion of the potential effects of climate change on the region.

3.2.3 Objectives

The existing IRWMP objectives discussion needs to be updated in order for the objectives to address adapting to changes in the amount, intensity, timing, quality and variability of runoff and recharge in addition to the need to consider the effects of sea level rise on water supply conditions and to identify suitable adaptation measures. Therefore, the 2008 Plan will be updated with the results from the Climate Change Technical Study.

One of the current IRWMP objectives is an improvement in water quality. The Salt and Nutrient Management Plan proposed as part of this IRWMP Update will comply with the State's Recycled Water Policy, which requires every groundwater basin to develop a plan to identify measures to manage salt and nutrient loading. Additionally, increase water supply by means of recycled water use is another IRWMP objective. As the Salt and Nutrient Management Plan is a State requirement, and would result in the increase in use of recycled water, its development meets multiple objectives and Statewide priorities. This plan will be implemented through a subset of the IRWMP Stakeholders, a Salt and Nutrient Management Plan Task Force, and the progress toward meeting the IRWMP objective through the Plan development will be monitored and recorded in the IRWMP Update.

3.2.4 Resource Management Strategies

The IRWMP evaluated the 24 water management strategies contained within the California Water Plan. Since the release of the 2009 Update of the California Water Plan, the following strategies have been added, which will be considered in the IRWMP Update: Forest Management, Land Use Planning and Management (formerly Urban Land Use Management), and Improve Flood Management. There are the additional "Other Strategies", that will also be reviewed, which include: Crop Idling for Water Transfers, Dewvaporation or Atmospheric Pressure Desalination, Fog Collection, Irrigated Land Retirement, Rainfed Agriculture, and Waterbag Transport/Storage Technology.

Additionally, the IRWMP must identify and implement "No-Regrets" Adaptation Strategies to the general effects of climate change, such as meadow and forest restoration, flood plain protection, and water use efficiency. The Climate Change Technical Study will help to identify the "No-Regrets" Adaptation Strategies that will be most effective and appropriate for this Region.

3.2.5 Integration

The 2008 Plan had a successful framework to ensure collaboration between entities and integration of projects so as to achieve multiple benefits. The IRWMP meets the new standard and the update will continue to use this successful format for integration.

3.2.6 Project Review Process

The project review process contained within the existing IRWMP, supplemented with the recent descriptive narrative of the review process provided in the RAP application, together meet the majority of the new standard. In order to be complete however, the Project Review Process must include: contribution of the project to adapting to climate change, contribution of the project in reducing GHG emissions as compared to project alternatives, and CEQA project-level analysis with respect to GHG emissions. While IRWMP plans are not required at this stage to implement

sophisticated tools to calculate GHG emissions on a project-by-project basis, they are required to begin the process of evaluating climate change at an analytical level.

Therefore, the Project Review Process will be updated with the results from the Climate Change Technical Study.

3.2.7 Impact and Benefit

The impacts and benefits discussion contained within the existing IRWMP meets the majority of the new standard. However, the IRWMP will be updated to include the discussion of impacts and benefits between regions, as well as those directly affecting DAC, and Environmental Justice related concerns, and Native American tribal communities, and including the benefits of environmental stewardship.

3.2.8 Plan Performance and Monitoring

The IRWMP will be updated with a Data Management System (DMS) that will help track and document the progress of IRWMP implementation and for storing and disseminating data from monitoring efforts. A discussion of how findings or "lessons learned" from project-specific monitoring efforts will be included to improve the RWMG's ability to implement future projects in the IRWM Plan. A table will be provided identifying who has the primary responsibility for development of project-specific monitoring plans, who is responsible for project-specific monitoring activities, the stage of project development that a project-specific monitoring plan should be prepared, and the generally required contents of such plans.

The plan performance and monitoring discussion contained within the existing IRWMP, will also be updated with the recent descriptive narrative of plan performance provided in the RAP application and a discussion of policies and procedures that promote adaptive management with respect to the effects of climate change.

3.2.9 Data Management

The IRWMP will be updated with a Data Management System (DMS) that will help manage efficient use of available data, dissemination of data, and integrated of data into existing State databases. The existing data management structure within the Plan will be enhanced with validation or quality assurance/quality control measures that will be implemented by the RWMG for data generated and submitted for inclusion into the DMS, as well as with an explanation of how data collected for the IRWMP can be shared within the watershed and with adjacent planning regions.

3.2.10 Finance

The IRWMP currently meets most of the new finance standard as provided in Chapter 6 of the 2008 Plan. However, the discussion requires an explanation of how operation and maintenance (O&M) costs for projects that implement the IRWMP would be covered and the certainty of O&M funding in order to meet the standard completely. Therefore, the IRWMP will be updated to include this discussion and the list of funding sources and programs, and grant opportunities will be updated.

3.2.11 Technical Analysis

The IRWMP includes a detailed listing and categorization of the documents used to develop the baseline information and technical analyses for the development of the IRWMP. Since the adoption of the IRWMP in 2008, some of these technical resources have undergone revisions or updates that should be reflected in this IRWMP update. The documents will be reviewed and if necessary the IRWMP will be updated. New technical data regarding climate change plans, policies, adaptation and mitigation will also be included within this section. These documents will be identified as part of the Climate Change Study being prepared as part of this IRWMP update. Also to be included will be an enhanced discussion of the data, technical methods, and analyses used in selection of the water management strategies, and why this information was appropriate for selecting the strategies within the Region. Some of the data deficiencies stakeholders identified during the development of the 2008 Plan are documented within the IRWMP. Given the new Standards, the expanded scope of the technical analysis, and review of current planning documents, an updated report on deficiencies, priority for filling the gaps, and plan to address them will be provided in the Update.

3.2.12 Relation to Local Water Planning

The IRWMP currently meets the Local Water Use Planning Standard. However, in order for the Plan to meet the requirements the Climate Change Standard, the IRWMP will consider and incorporate the water management issues and climate change adaptation and mitigation strategies from local plans that will be discussed in the Climate Change Technical Study.

3.2.13 Relation to Local Land Use Planning

The IRWMP currently meets the Local Land Use Planning Standard. However, in order for the Plan to meet the requirements the Climate Change Standard, the IRWMP will include a discussion of the region's demonstrated information sharing and collaboration with regional land planning efforts being undertaken in order to manage multiple water demands throughout the state (as described in the California Water Plan 2009), adapt water management systems to climate change, and potentially offset climate change impacts to water supply in California. The climate change adaptation and mitigation strategies discussed in the Climate Change Technical Study that is being conducted as part of this IRWMP Update will be used to help with this update.

3.2.14 Stakeholder Involvement

As described in Sections 1.2.2 -1.2.4 above, and additionally in the RAP application, the IRWMP was developed and continues to operate via a broad public process focused on outreach through meetings, community events, direct emails, mailings, and face to face interaction to maintain Stakeholder involvement. Stakeholders, including DACs, were and continue to be able to directly interact with the IRWMP by adding projects to the list of Candidate Projects for implementation of the IRWMP.

Chapter 1 of the existing IRWMP, supplemented with the recent descriptive narrative of the Region provided in the RAP application, together meet the new standard for Stakeholder Involvement.

3.2.15 Coordination

Chapter 8 of the 2008 Plan, supplemented with the recent descriptive narrative of coordination provided in the RAP application together meet the majority of the new standard. In order to be complete however, the Coordination discussion must include: mention of CNRA's California Adaptation Strategy process and the RWMG's consideration of membership in the California Climate Action Registry (CCAR), http://www.climateregistry.org/.

The 2008 Plan will also be updated with the ongoing efforts from other adjacent planning regions. Despite the separate planning efforts, agencies and other Stakeholders from the Los Angeles County portion of the watershed regularly attend and provide input to meetings of the WCVC and Greater Los Angeles IRWMPs; likewise agencies and other Stakeholders from the Ventura County portion of the watershed have been invited to, have attended, and have provided input to meetings of the Upper Santa Clara River IRWMP. So, although no efforts are planned to join with any other IRWM region, all three IRWMPs are making an effort to be aware of each individual plan's content, goals, objectives, and processes.

The Upper Santa Clara River and WCVC IRWMP regions are currently cooperating on a number of programs and working together through our respective Stakeholder processes, planning efforts and projects and programs on which we are collaborating to ensure that the entire watershed is protected and managed appropriately, despite the division of the county boundary. These updates will be included in the IRWMP Update.

3.2.16 Climate Change

As part of this IRWMP Update, a climate change technical study is being commissioned to address the requirements of the new standard. Please see Work Task 2, Climate Change Technical Study, in Section 4 of this Work Plan.

3.3 Program Preferences and Statewide Priorities

When the Upper Santa Clara IRWMP group prepared the 2008 Plan, the purpose was to identify water-related regional issues and needs and to facilitate a regional approach to addressing them. The 2008 Plan used Proposition 50 Guidelines as a framework to inform what topics and issues the IRWMP Stakeholder group should evaluate. Since the 2008 Plan, Proposition 84 Guidelines have been released and these Guidelines differ in some substantial ways from the Proposition 50 Guidelines, including the Program Preferences and Statewide Priorities. The Upper Santa Clara IRWMP group intends to update the IRWMP as described earlier in Section 3.2. This section is intended to describe how the IRWMP update will address the Program Preferences and Statewide Priorities in Proposition 84.

3.3.1 Program Preferences

3.3.1.1 Include Regional Projects or Programs

The development of the 2008 Plan provided an ongoing forum in which the Stakeholders could collaborate and develop regional partnerships and programs. The intent is to also use the IRWMP Update as a forum to facilitate regional partnerships and regional solutions for regional issues.

3.3.1.2 Integrate Water Management Programs and Projects

As part of the IRWMP Update, Stakeholders will be asked to identify and consider a broad range of water management strategies. A broad and diverse Stakeholder group will be sought so as to insure a wide range of strategies are brought to the table. As was the case with the 2008 Plan, implementation priority will be given to those projects and strategies which can be combined to achieve multiple goals within a single implementation effort.

3.3.1.3 Resolve Significant Water-Related Conflicts

One of the primary benefits of an IRWMP plan is that it creates the institutional framework through which water related conflicts can be discussed and even resolved.

Various users of the Santa Clara River have been in dispute over acceptable levels of chloride salt in the river as well as acceptable methods to manage and reduce chloride levels. In the Upper Santa Clara River, the river gains chlorides through the application of imported water, the water treatment process, and the use of self-regenerating water softeners (now banned in the Santa Clarita Sanitation District service area). Users downstream include farmers growing strawberries, avocados, and nursery crops. Therein exists the conflict, a need to provide water and sanitary services to the upper watershed at a reasonable cost and a need to provide low-salt water to downstream agricultural users. Drought exacerbates the conflict, increasing the salt in the water supplies for the upper watershed and increased use of recycled water, while elevated chloride levels in recycled water discharged to the river.

The Salt and Nutrient Management Plan proposed as part of this IRWMP update will describe the fate and transport of salt and nutrient contributions from imported and recycled water, agriculture, industrial users, and other land applications and water use within the Santa Clara River Valley East Groundwater Basin. The Salt and Nutrient Management Plan will categorize salt and nutrient contributors and evaluate management practices and indicate where management improvements would benefit. The Salt and Nutrient Management Plan will identify measures to manage salt and nutrient loading within the groundwater basins.

3.3.1.4 Contribute to Attainment of CALFED Bay-Delta Program

The four CALFED Bay-Delta Program objectives can be summarized as follows:

1. Ecosystem Quality
2. Water Supply
3. Water Quality
4. Levee System Integrity

The Upper Santa Clara IRWMP region receives State Water Project water delivered through the Delta; actions within the Region could contribute to the success of CALFED Bay-Delta Program objectives. In the 2008 Plan, the Stakeholders made reduction in water demand one of the regional objectives. In the 2008 Plan Stakeholders sought a “ten percent overall reduction in projected urban water demand throughout the Region by 2030 through implementation of water conservation measures”. Any reduction in water demand would reduce demand on imported water and contribute to the attainment of CALFED objectives.

Since the 2008 Plan, Senate Bill 7 of Extended Session 7 (SBx7-7) has been enacted, mandating that urban water suppliers reduce statewide water use (in gallons per capita per day) by 20 percent by 2020. The IRWMP Update provides the opportunity for the region as a whole to tackle enhanced water use efficiency.

3.3.1.5 Address Water Supply and Water Quality Needs of Disadvantaged Communities

During development of the 2008 Plan, no communities that met the strict State definition of a Disadvantaged Community (DAC) were identified. However, in the spirit of providing "a safe, clean, affordable, and sufficient water supply to meet the needs of California residents, farms, and businesses", an outreach effort directed at DAC members was developed and a DAC Outreach Subcommittee was formed. The DAC Outreach subcommittee contacted DAC members through opinion surveys in areas where economically disadvantaged people were likely to seek services. These surveys did not identify any water quality or supply issues unique to DACs.

The IRWMP Update will be able to take advantage of 2010 Census information. It is hoped that the 2010 Census will make it easier to identify and coordinate with DACs and to identify and address potential water quality or water supply issues of these communities.

3.3.1.6 Effectively Integrate Water Management with Land Use Planning

The 2008 IRWMP had the benefit of participation from all land use planning entities within the Upper Santa Clara watershed: the City of Santa Clarita, the County of Los Angeles, and the Angeles National Forest. Information in the 2008 Plan, including the demographic data and the resultant water demand relied on planning documents that are now out of date. Since 2008 the *Santa Clarita Valley General Plan*, developed jointly by the City of Santa Clarita and the County of Los Angeles, has undergone significant revision. In addition, the Santa Clarita Valley 2010 UWMP update is being prepared. The IRWMP Update will incorporate the new planning data, new demographic data, and updated water demand projections.

3.3.2 Statewide Priorities

3.3.2.1 Drought Preparedness

The 2008 Plan focused on drought preparedness. Three of the five objectives selected by the Stakeholder group related to drought preparedness:

- Reduce Water Demand - Implement technological, legislative and behavioral changes that will reduce use demands for water
- Improve Operational Efficiency - Maximize water system operational flexibility and efficiency, including energy efficiency.
- Increase Water Supply - Understand future regional demands and obtain necessary water supply sources.

The updated Plan will take another major step forward in drought preparedness through the incorporation of region specific climate change data. The Climate Change Technical Study will not only evaluate the Region's vulnerability to climate change, but will develop adaptive strategies.

3.3.2.2 Use and Reuse Water More Efficiently

As described earlier, since preparation of the 2008 Plan, SBx7-7 has been enacted, mandating that urban water suppliers reduce statewide water use (in gallons per capita per day) by 20 percent by 2020. Methods of complying with SBx7-7 include enhanced water conservation, water use efficiency, and recycled water. The update of the IRWMP plan will provide a forum for the Region as a whole to address water use efficiency. Importantly, the IRWMP Update will also address another major element of SBx7-7, use of recycled water. In order to use recycled water in a manner protective of water quality, the Region must have a Salt and Nutrient Management Plan. A Salt and Nutrient Management Plan will be a requirement for using recycled water after year 2014. A Salt and Nutrient Management Plan will be undertaken as part of, and incorporated into, the IRWMP update.

3.3.2.3 Climate Change Response Actions

The IRWMP Update proposes a focused region-specific Climate Change Technical study. The Climate Change Technical Study will identify vulnerability of the Region to climate change, evaluate potential climate change impacts, identify and evaluate potential adaption strategies, and will make recommendations as to how to collect and utilize greenhouse gas emissions data within the IRMWP framework.

Further, the IRWMP Update also includes development of the basis of a Salt and Nutrient Management Plan in accordance with State's Recycled Water Policy, which requires every groundwater basin to develop a plan to identify measures to manage salt and nutrient loading. Additionally, increase water supply by means of recycled water use is another IRWMP objective. As the Salt and Nutrient Management Plan is a State requirement, and would result in the increase in use of recycled water, its development meets multiple objectives and Statewide priorities. The use of recycled water will not only facilitate sustainable local water supplies, but will also result in a reduction of greenhouse gases, a significant driver of climate change.

3.3.2.4 Expand Environmental Stewardship

The 2008 Plan identified five objectives, including the following:

- Promote Resource Stewardship - Preserve and improve ecosystem health; improve flood management; and preserve and enhance water dependent recreation.

While included in the 2008 Plan, a need to improve implementation of this objective has been identified. As part of the IRWMP Update Stakeholders will be asked to identify new strategies to achieve all the Plan objectives, including resource stewardship.

3.3.2.5 Practice Integrated Flood Management

The IRWMP Update is intended to identify both existing and future issues related to water resources. The Climate Change Technical Study will greatly inform the description of future flood

management conditions and needs. The Climate Change Technical Study will provide a means to consider uncertainty and risk not only for water management but specifically for flood management. Existing research on climate change suggests that one of the primary outcomes will be a shift in snowfall to rainfall and an increase in peak flood flows. The Climate Change Technical Study will identify flood vulnerabilities as well as adaptation strategies, including the potential for integrated flood management.

3.3.2.6 Protect Surface Water and Groundwater Quality

The Region will need to balance the sometimes competing objectives of developing new, local water supplies, with protection of surface water and groundwater quality. Nowhere is this more true than when an area is contemplating the production and use of recycled water. It is the intent of this Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects.

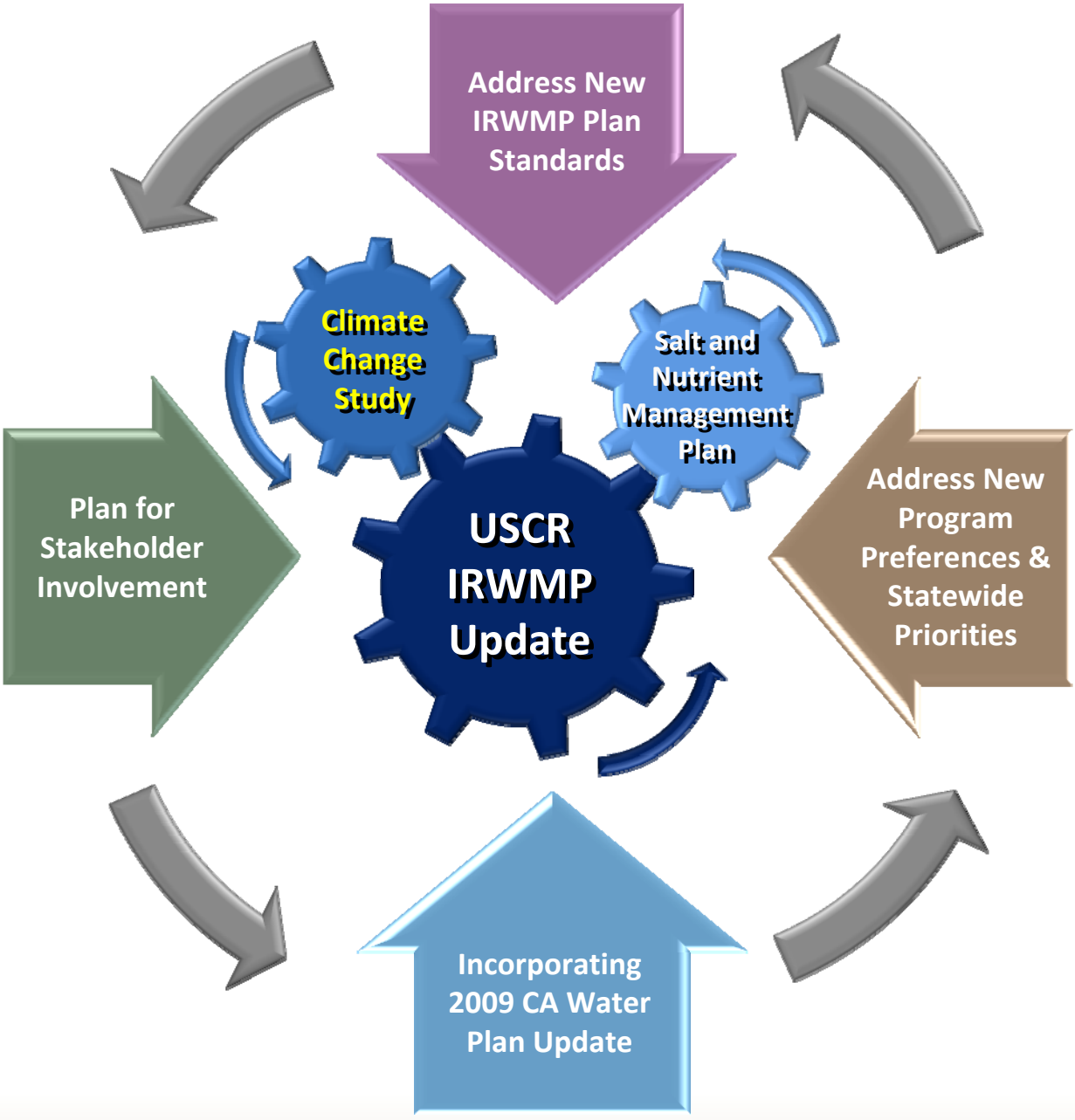
3.3.2.7 Improve Tribal Water and Natural Resources

The Santa Clarita Valley is within the historic range of the Tataviam Band of Mission Indians. The 2008 Plan solicited the input and participation from a broad Stakeholder group, including a specific solicitation to the Tataviam. Unfortunately, no tribal representatives participated in the 2008 Plan. The IRWMP Update will provide another opportunity for tribal participation.

3.3.2.8 Ensure Equitable Distribution of Benefits

The IRWMP Update will include processes to maximize access and participation by a broad range of Stakeholders. Input and participation will be sought throughout the IRWMP Update via letters, email, a publicly accessible website, water agency mailers, and notices in local newspapers. Meetings and workshops were, and will continue to be, held at a time to allow maximize Stakeholder and public involvement. Participation of the Stakeholders will ensure that all the various water users (DACs, tribes, municipal, agricultural, environmental) are represented. This will also ensure that benefits are shared and potential impacts do not unduly fall on one particular group.

WORK PLAN


Address New IRWMP Plan Standards
Climate Change Study
Salt and Nutrient Management Plan
Plan for Stakeholder Involvement
USCR IRWMP Update
Address New Program Preferences & Statewide Priorities
Incorporating 2009 CA Water Plan Update

3.4 Work Plan Tasks

Task 1 GRANT ADMINISTRATION

This task is to administer and manage project activities and the overall project schedule and budget to ensure that the project is completed efficiently and successfully. Project management activities will include budget and schedule control and quality assurance and quality control (QA/QC) for the duration of the project. This task also includes the development and submittal of quarterly reports to DWR. Quarterly reports will include project progress reports, upcoming work, schedule, budget, and other pertinent information.

Task 1 Deliverables:

- Proposal Quarterly Reports
- Grant Agreement Completion Final Report

Task 2 CLIMATE CHANGE TECHNICAL STUDY

Subtask 2.1: Describe Legislative and Policy Context

This task will identify the main pieces of policy and legislation of importance regarding the State's response to climate change, management of water resources, and including how IRWM planning efforts will eventually analyze climate change at a project level. Included in the discussion will be: Executive Order (EO) S-3-05 and the California Global Warming Solutions Act of 2006 (AB 32; amending California Health and Safety Code Division 25.5, §38500, et seq.); Senate Bill 97; and EO S-13-08.

Subtask 2.2: Identify Vulnerability to Climate Change

Identify the USCR IRWMP Region's Vulnerability to Climate Change

This task will identify the potential vulnerabilities to water resources in the USCR IRWMP Region to projected climate change. Review of the CNRA's 2009 California Adaptation Strategy process will assist in identifying those potential vulnerabilities to resources identified within the USCR Region.

Develop Climate Change Scenarios

This task will collect available data on projected changes in average air temperatures and precipitation ratios downscaled to the region level for a variety of global climate models and global greenhouse gas emission scenarios. These data will be used to develop an array of climate change scenarios for the region (e.g., a warmer, drier future condition) for regional water resources. These scenarios will be consistent with the most recent scenarios used by the Department of Water Resources (DWR) for projecting climate change for the State Water Project, which is the major source of imported water for the region.

Define Vulnerable Watershed Characteristics

This task will define the watershed characteristics that may be vulnerable to the climate change scenarios developed for the region. These characteristics include hydrology, watershed landscape, water supply and demand, groundwater recharge, ecosystem, and other characteristics such as

weather (air characteristics, precipitation patterns, and evaporation), vulnerabilities include potential changes in the amount, intensity, timing, quality, and variability of runoff and recharge; effects of sea level rise (on imported water supply by DWR), and increased air temperature effects on water quality and ecosystem health.

Assess vulnerability sectors/variables

This task will provide a vulnerability assessment that includes (as appropriate) a hydraulic analysis, a demand analysis, a reservoir analysis, an ecological analysis, a groundwater recharge analysis, a sea level rise analysis (for imported water by DWR), and other analyses that address water quality changes and potential impacts of extreme events including extended droughts, high precipitation events, flooding, and wildfires.

Rank Vulnerabilities

This task will use the results of the vulnerability analyses to identify the most important water resources vulnerabilities and rank them by importance for various climate change scenarios considered. The results of this task will be used to develop adaptive strategies to respond to potential climate change impacts.

A discussion of the highest ranked vulnerabilities will be provided in the objectives section of the IRWMP. The objectives will be evaluated to address the highest ranked vulnerabilities. If an appropriate objective does not exist, the plan objectives will be updated to include new climate change influenced objectives.

Subtask 2.3 Discuss Adaptation to Climate Change

Discuss Impacts from Climate Change Scenarios

This task will discuss the potential impacts of the various climate change scenarios considered on stream flows, reservoir levels, flood plain and groundwater recharge, and watershed landscape, and their relationship to water supply reliability, water quality, and ecosystem health. Potential impacts of sea level rise for imported water will also be described.

Develop Adaptive Strategies

This task will develop adaptive water management strategies to address the potential impacts of climate change discussed in Task 2.2. Initially, these will be "no regrets" strategies (e.g., water conservation and efficiency programs, flood plain protection, water recycling projects) that would be done. As vulnerability assessments and tools become more refined, additional adaptation strategies that are appropriate will be considered. These "no regrets" strategies will be incorporated into the IRWMP as appropriate.

Evaluate Adaptive Strategies

This task will "generally" evaluate the adaptive strategies developed for the region. Eventually the goal of the climate change evaluation is to be able to evaluate projects at an individual level, whereby projects included in the IRWMP, and additional projects deemed necessary, will be assessed for their ability to adapt to potential climate change impacts and for the benefits the projects will provide. However, analysis on a project-by-project level is beyond the scope of this evaluation, but will be required in the near future. Therefore, discussions of how groupings of

adaptation projects can potentially contribute to the benefits of watershed resources will be provided. For example, flood management projects and/or water supply projects may maintain and enhance ecosystem processes. The results of this evaluation will be used to identify both short term "no regrets" projects and long term projects that may depend on future assessments of climate change impacts. The adaptation strategies will be ranked in order of importance for implementing the adaptive management strategy.

Subtask 2.4: Recommend Data Collection Improvements and GHG Calculation Tools for Future IRWMP Update

This section will review the data collection process and recommend ways to for the RWMG to collect the necessary data for the next update. As models and climate scenarios and GHG estimation tools are developed, DWR expects those tools to be incorporated into this Plan and into the implementation projects. This task will also discuss the type of tools that should be created to better calculate the GHG emission impacts of various projects.

Subtask 2.5: Identification of Next Steps for Future IRWMP Updates

As previewed in the "Incorporating Climate Change into Integrated Regional Water Management Plans" presentation by the EPA/DWR, IRWM plans will still require significant updating to incorporate appropriate climate change analyses. This task will describe what should be included in future updates:

- Evaluate adaptive strategies on a project level
- Establish greenhouse gas (GHG) intensity factors
- Establish/calculate GHG emissions for each project
- Identify project components that may support carbon sequestration
- Identify best management practices and GHG mitigation measures for each project
- Discuss project contributions to adaptation strategies
- Establish CEQA Threshold of Significance
- Develop Climate Change Implementation Plan and methodology for implementation under uncertainty

Subtask 2.6: Prepare Technical Study

Prepare Draft and Final Technical Study

This task involves preparing a draft technical study that summarizes the results of Tasks 2.1 through 2.5 and provides recommendations for incorporating climate change analyses into the IRWM plan. The study will be submitted to the RWMG for review and comment. The draft Study will be revised with comments received and one (1) final Study will be submitted to the RWMG as a pdf on CD.

Subtask 2.7: Direct Project Management

Consultants' Project Manager shall assure that proper resources and staff are dedicated to this project to assure a timely completion of the Study. Consultants' Project Manager shall also implement and enforce internal Quality Assurance and Quality Control programs. A minimum of bi-monthly communication with the Agency's Project Manager is assumed in the budget.

Task 2 Deliverables:

- Draft and Final Climate Change Technical Study

Task 3 SALT and NUTRIENT MANAGEMENT PLAN

This task is the preparation of a Salt and Nutrient Management Plan for the Santa Clara River Valley East Groundwater Sub-basin (East Sub-basin). Pursuant to the State Water Resources Control Board (SWRCB) adopted statewide Recycled Water Policy, a stakeholder-driven Salt and Nutrient Management Plan for each basin/sub-basin in California is recommended to address salt and nutrient issues applicable to all users of water and contributors of salts and nutrients in the basin/sub-basin rather than impose requirements solely on individual recycled water projects. The area of focus is the groundwater basin underlying the planned future water recycling in the Santa Clarita Valley. The Salt and Nutrient Management Plan shall include components as described in the Recycled Water Policy. A more detailed scope for preparation of this Salt and Nutrient Management Plan is provided as Appendix A to this Work Plan. The final scope will be refined prior to soliciting proposals for consulting services to develop the Salt and Nutrient Management Plan. This task will pull from a considerable body of previous work related to hydrogeologic and water-quality processes in the East Sub-basin, including the IRWMP itself.

Subtask 3.1: Establish Objectives (and Stakeholder Roles and Responsibilities)

A Salt/Nutrient Management Plan Task Force will be convened to work with the RWMG, Regional Board and stakeholders to establish clear and specific objectives for the Salt and Nutrient Management Plan.

Subtask 3.2: Salt and Nutrient Source Identification

This task will summarize salt and nutrient sources and loadings in the groundwater basins. Fate and transport will be addressed in Task 3.5. A GIS map layer will be created to map land uses and salt and nutrient loads. Supporting tables related possible land use changes will be provided.

Subtask 3.3: Summarize Existing Groundwater Monitoring Programs

This task will summarize existing monitoring activities within the groundwater basins that can be used to meet the requirements of the Salt and Nutrient Management Plan. A GIS map layer will be created to map existing monitoring locations.

Subtask 3.4: Summarize Existing Groundwater Quality Data

This task will assess and evaluate the current monitoring efforts with respect to the guidelines of the Policy, Basin Plan and the Salt and Nutrient Management Plan.

Subtask 3.5: Evaluate Constituent Effects on Groundwater

The objectives of this task are to evaluate the assimilative capacity of groundwater basins, develop a salt and nutrient balance to determine the salt and nutrient sources that are likely to effect groundwater in the basins, determine the fate and transport of these constituents, and to quantify the potential impacts of each source on groundwater quality.

Subtask 3.6: Develop Recommended Groundwater Monitoring Plan

This task includes the development of a groundwater monitoring plan, identification of additional monitoring required to fill existing data gaps (if any), and provision for monitoring Chemicals of Emerging Concern (CEC).

Subtask 3.7: Anti-degradation Analysis

In this task, salt and nutrient sources that result in groundwater impacts will be further evaluated to determine the potential level of degradation, if any that would occur within the groundwater basins due to existing and future projects. The objective of the evaluation is to determine whether an anti-degradation analysis is required for a source or combination of sources, and to simplify the anti-degradation analysis if it is found that no significant degradation of groundwater quality is likely to occur. Under this task, the threshold for significant degradation will be defined. Further evaluation will be conducted only if potential significant degradation is likely based on the analysis.

Subtask 3.8: Prepare Salt and Nutrient Management Plan for Submittal to RWQCB

The Salt and Nutrient Plan will address the key issues identified in the approach and will integrate the elements discussed in Subtasks 3.1 through 3.7 and requirements of the State's Recycled Water Policy. Meetings with the RWMG, RWQCB and Stakeholders will be conducted between each task in order to make well-informed decisions regarding the approach.

Subtask 3.9: Project Management

The primary objectives of the project management task are to: 1) provide close coordination among the Stakeholders, the project team, and other involved parties; 2) ensure that project schedule and budget are met; 3) document project activities (progress reports and meetings); and 4) ensure that project work and deliverables meet quality objectives.

Task 3 Deliverables:

- RWMG Task Force
- Groundwater Monitoring Program
- Draft and Final Salt and Nutrient Plan

Task 4 UPDATE IRWMP STANDARDS

Subtask 4.1: Address New Plan Standards and Update Existing Plan

Sections 3.1.1 through 3.1.16 detail the updates that are needed within the 2008 Plan in order to be compliant with the new Proposition 84 IRWMP Standards. The updates are also summarized in Table 3-3.

Subtask 4.2: Incorporate Technical Studies (Tasks 2 and 3)

The IRWMP Update will incorporate the technical information from the two technical studies, the Climate Change Technical Study (Task 2), and the Salt and Nutrient Management Plan (Task 3). Figure 3-4 shows graphically how the information from the Climate Change Study will be used to update the IRWMP. The results from the Salt and Nutrient Management Plan will be used to gauge progress towards meeting the water quality objectives identified in the IRWMP. Data obtained for the Salt and Nutrient Management Plan will be used to update the technical analysis portions and data management chapters. Both studies will also be filling in data deficiencies identified in the 2008 Plan.

Subtask 4.3: Integrate/Re-Prioritize Projects

The updating of the 2008 Plan to the new standards and the incorporation of the two technical studies, the Climate Change Technical Study (Task 2), and the Salt and Nutrient Management Plan (Task 3), may result in changes to the IRWMP objectives, updating of regional priorities, and updated water management strategies. The Candidate Projects within the IRWMP, as well as new projects submitted for evaluation will need to reflect and integrate this new information. The 2008 Plan had a successful framework to ensure collaboration between entities and integration of projects so as to achieve multiple benefits which will be applied in this IRWMP Update.

Subtask 4.4: Stakeholder Meetings

This task assumes budget for six (6) Stakeholder meetings with the RWMG and Stakeholders. Meeting agendas are tentatively planned:

- Meeting 1 – Overview of IRWMP Update, Climate Change Technical Study Introduction, Salt and Nutrient Management Plan Introduction, Consultant Team Introductions
- Meeting 2 – Region Description, Objectives, Resource Management Strategies
- Meeting 3 – Technical Studies Update, Resource Management Strategy Integration, Project Review, Project Prioritization, Funding Update
- Meeting 4 – Technical Studies Update, Project Integration/Re-Prioritization, New Project Identification
- Meeting 5 – Technical Studies Update, Project Integration/Re-Prioritization, Data Management, New Project Identification, Objectives Evaluation, Funding Update

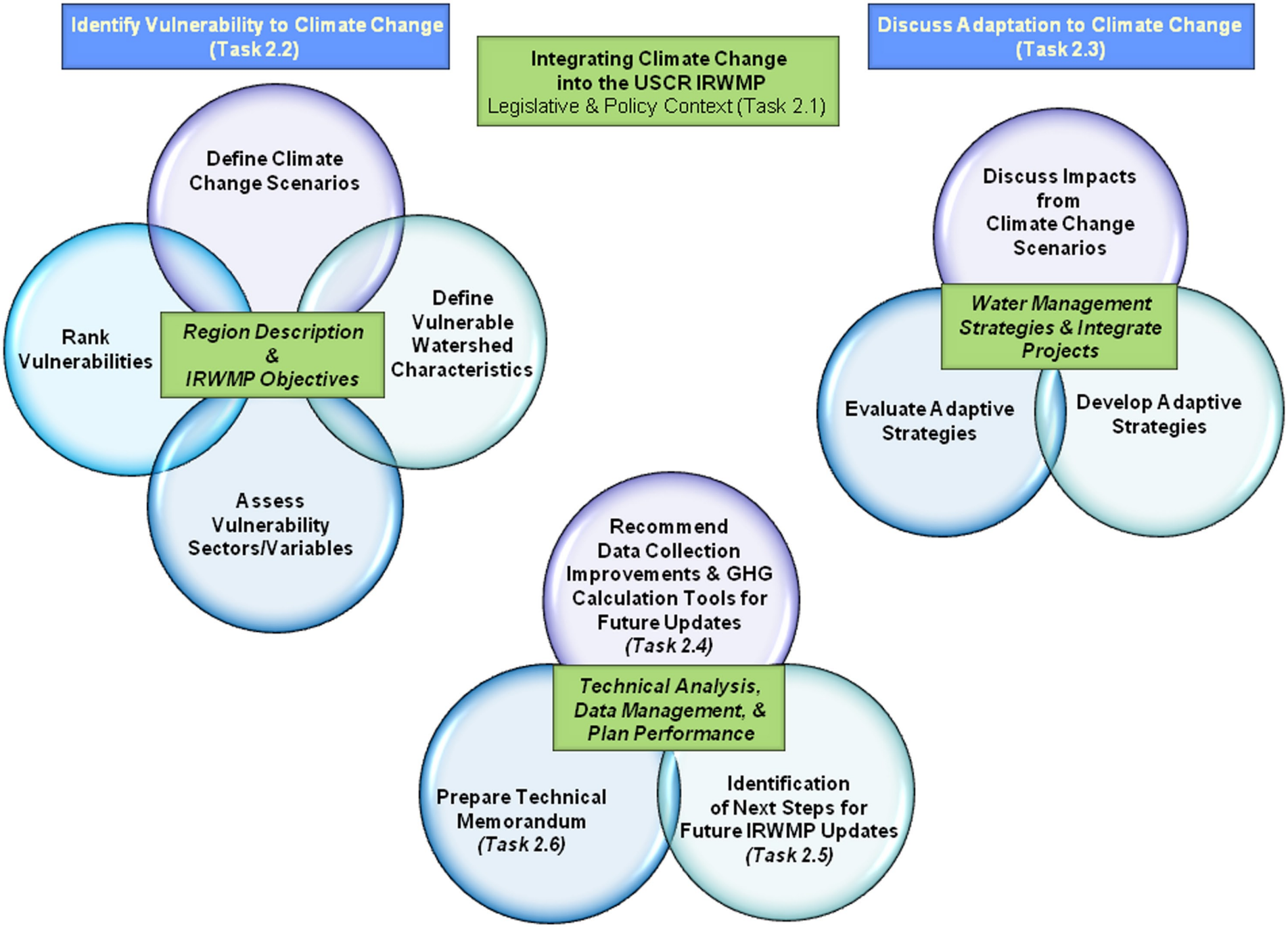
- Meeting 6 – Technical Studies Update, Project Integration/Re-Prioritization, New Project Identification

Subtask 4.5: Prepare Draft and Final IRWMP

A Public Review Draft IRWMP will be prepared and submitted to the RWMG, posted to the IRWMP website and made available to participating entities. After incorporating RWMG and participating Stakeholder comments, the Final IRWMP will be prepared and submitted to the RWMG and posted to the IRWMP website. After submittal of the Final IRWMP to the RWMG and participating Stakeholders, the IRWMP shall be adopted by the necessary public agency entities in a timely manner to support identified funding opportunities.

Subtask 4.6: Direct Project Administration

Project administrative and management tasks will include: managing staff; coordinating with the RWMG; monitoring the scope, schedule, and budget; planning and monitoring project activities; and preparing the Draft and Final Reports. Monthly email status reports will be provided in a format specified by the RWMG.


Identify Vulnerability to Climate Change (Task 2.2)
Integrating Climate Change into the USCR IRWMP
Legislative & Policy Context (Task 2.1)
Discuss Adaptation to Climate Change (Task 2.3)
Define Climate Change Scenarios
Rank Vulnerabilities
Region Description & IRWMP Objectives
Define Vulnerable Watershed Characteristics
Assess Vulnerability Sectors/Variables
Discuss Impacts from Climate Change Scenarios
Water Management Strategies & Integrate Projects
Evaluate Adaptive Strategies
Develop Adaptive Strategies
Recommend Data Collection Improvements & GHG Calculation Tools for Future Updates (Task 2.4)
Technical Analysis, Data Management, & Plan Performance
Prepare Technical Memorandum (Task 2.6)
Identification of Next Steps for Future IRWMP Updates (Task 2.5)

TASK 3 SALT/NUTRIENT MANAGEMENT PLAN

BACKGROUND

The State Water Resources Control Board (SWRCB) adopted a statewide Recycled Water Policy on February 3, 2009 to establish uniform requirements for the use of recycled water. The purpose of this Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), in a manner that implements state and federal water quality laws.

As part of this policy, the preparation of a salt and nutrient management plan for each basin/sub-basin in California, including compliance with CEQA and participation by Regional Water Board staff, is required by 2014. The policy states that salts and nutrients from all sources should be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects. These plans shall be consistent with the Department of Water Resources' Bulletin 160, as appropriate, and shall be locally developed.

The salt and nutrient plan should include a basin/sub-basin-wide monitoring plan that specifies an appropriate network of monitoring locations. The scale of the basin/sub-basin monitoring plan is dependent upon site-specific conditions and shall be adequate to provide a reasonable, cost-effective means of determining whether the concentrations of salt, nutrients, and other constituents of concern as identified in the salt and nutrient plans are consistent with applicable water quality objectives.

PREVIOUS STUDIES

A considerable body of previous work exists related to hydrogeologic and water quality processes in the groundwater basins in the Upper Santa Clara River (USCR) watershed:

- Upper Santa Clara River chloride TMDL. The development of the chloride TMDL included several scientific studies completed to assess the chloride levels in surface water and groundwater in the Upper Santa Clara River watershed;
- Santa Clara River Nitrogen Compounds TMDL. The Santa Clara River Nitrogen Compounds TMDL addressed water quality impairments associated with Nitrogen Compounds in the Santa Clara River Watershed;
- USCR Integrated Regional Water Management Plan (IRWMP). The IRWMP represents a comprehensive summary of water quantity and quality issues affecting the region;
- Los Angeles Regional Water Quality Control Board (LARWQCB) Staff Report on the Upper Santa Clara River Chloride TMDL Reconsideration and Conditional Site-Specific Objectives.

This report presents the relevant issues impacting salt and nutrient loading in the USCR watershed.

APPROACH

TASK 3.1: ESTABLISH OBJECTIVES (AND STAKEHOLDER ROLES AND RESPONSIBILITIES)

Developing collaborative and cooperative relationships between RWMG, Task Force, RWQCB, and stakeholders is a priority. The project team will work all parties to establish clear and specific objectives for the Salt and Nutrient Management Plan.

TASK 3.2: SALT AND NUTRIENT SOURCE IDENTIFICATION

The objective of this task is to identify and gather available data to describe the fate and transport of salt and nutrient contributions from imported and recycled water, agriculture, industrial users, and other land applications within the Santa Clara River Valley East Groundwater Sub-basin. The approach for this task will be to develop a salt and nutrient source load per land use type, based on available data at specific facilities, and apply a general unit land-use contribution throughout the USCR for areas where there are data gaps. Application of conservative assumptions based on good data will provide a simplified and defensible approach for the larger region. Database mapping in GIS will provide a geospatial representation of salt and nutrient management loads throughout the groundwater basins.

SUBTASK 3.2.1 SALT AND NUTRIENT DATA

The project team will collect and review salt and nutrient source data acquired from existing databases, individual facilities, and Stakeholders. These data will be compiled to create a geographic inventory and to quantify salt and nutrient inputs to the groundwater basins.

Technical reports prepared for the plan will be used as a starting point to identify salt and nutrient concentrations and an assessment of the fate of constituents. Data collection efforts will further include, but not be limited to, information gathered from each municipality to evaluate the salt and nutrient sources and land uses within the region:

- 2005 Urban Water Management Plan;
- Groundwater Management Plans;
- Drinking Water Source Assessment Plans;
- Water quality data, as applicable;
- Consumer Confidence Reports (CCR);
- Planned modifications to the CLWA's and retailer water systems and available supply (such as addition of new wells, recycled water plans, storage ponds and/or water treatment facilities);
- Other applicable reports that summarize or predict water quality.

Possible sources and water quality data not included in these reports will be supplemented with data from state and federal databases and reports, and information from the County Agriculture Commissioner's Office. These databases provide information regarding land application and sources of salts and nutrients, the present level in various water sources, potential sources of salt associated with agricultural and residential land activities, and land use allocations. Land use data will supplement the available salt and nutrient data available in reports and databases. The sources for these databases and reports will include, but are not limited to the CDPH, USGS, Los Angeles County, LARWQCB, and DWR.

The quality and appropriateness of the data used will be assessed prior to inclusion in the study. Data gaps will be identified and reported, historical information for facilities that are no longer in operation will be gathered where available, and potential individual contributors (such as septic tank owners) who are not required to provide data will be considered in the overall analysis. Summarizing these areas of insufficient or historical data will be a critical element to identifying possible localized degradation. These will be key issues that the Salt and Nutrient Management Plan will have to address.

Task 3.2 will be performed in concert with Tasks 3.3 and 3.4, which include summarizing information from existing groundwater monitoring programs and existing groundwater quality data, as all three tasks provide pieces of information that will be used to assess the fate and transport analysis of salt and nutrients. The data specific to this task will include surface water quality and irrigation data; fertilizer activity within the county; discharge and recycled water use data; and reports previously prepared that describe potential salt and nutrient sources.

This task will summarize salt and nutrient sources in the USCR watershed. Fate and transport will be addressed in Task 3.5. A GIS map layer will be created to map land uses and salt and nutrient loads. Supporting tables will be provided.

TASK 3.3: SUMMARIZE EXISTING GROUNDWATER MONITORING

In Task 3.3, the project team will summarize the known existing monitoring programs and relevant monitoring plans performed as part of the USCR IRWMP. Identifying existing monitoring plans will assist the project team in determining the scale of the monitoring plan required for the proposed Salt and Nutrient Management Plan consistent with the State's Recycled Water Policy and Water Quality Control Plan for the Los Angeles Region (Basin Plan).

We will summarize existing monitoring programs and identify areas where additional monitoring may need to be implemented, if necessary, to meet the requirements of the Salt and Nutrient Management Plan. Our review and summary of the existing monitoring programs will confirm the availability of water quality data parameters required to meet the goals of the Plan to ensure that groundwater quality is protected. Task 3.6 will address our approach towards developing a monitoring program in more detail.

This task will summarize existing monitoring activities that can be used to meet the requirements of the Salt and Nutrient Management Plan. A GIS map layer will be created to map existing monitoring locations.

TASK 3.4: SUMMARIZE EXISTING GROUNDWATER QUALITY DATA

The objective of this task is to summarize the water quality data from available groundwater monitoring programs and to describe these programs. Additionally, data gaps, if any, will be identified for analytical parameters necessary for the Salt and Nutrient Management Plan to be compliant with the Policy. Summarizing the existing monitoring data will facilitate the design of the USCR Watershed Monitoring Plan, which will be conducted as part of Task 3.6. By understanding the existing monitoring network, we can better design a cost-effective monitoring plan to meet monitoring objectives.

Ambient groundwater quality levels will be defined by reviewing existing monitoring reports, data analysis, and GWSI reports. A summary table of all monitoring reports will be developed. Water quality parameters presently being monitored will be tabulated and analyzed, including a summary of wells with exceedances to drinking water standards. The quality and appropriateness of the data will be assessed and noted in the data summary.

The monitoring plan will define water supplies proximate to proposed large recycled water projects. A program to monitor water quality will be developed in these areas. Additionally, groundwater quality data will be analyzed to identify potential impacts from recycled water projects, if any, to groundwater. The Monitoring Plan will differentiate between natural background quality (if unaffected by human activities) and existing background quality of the groundwater (if natural background quality no longer exists). This will demonstrate localized areas where existing degradation is not a result of current practices.

This task will assess and evaluate the existing water quality monitoring data with respect to the guidelines of the Policy, Basin Plan and the Salt and Nutrient Management Plan.

TASK 3.5: EVALUATE CONSTITUENT EFFECTS ON GROUNDWATER

The objectives of this task are to evaluate groundwater basin assimilative capacity for salt and nutrients and determine sources that may effect groundwater in the basin, determine the fate and transport of these constituents, and to quantify the potential impacts of each source on groundwater quality. This task includes assessment of current irrigation practices and management of nutrient application to agronomic levels based on soil type and rainfall to determine the potential for groundwater degradation.

Land management practices will be evaluated to assess potential groundwater impacts, if any, and the cumulative effects of combinations of sources. Results of the existing GWSI modeling effort will be incorporated if applicable.

TASK 3.6: DEVELOP RECOMMENDED GROUNDWATER MONITORING PLAN

This task includes the development of a groundwater monitoring plan for the Salt and Nutrient Management Plan, including provisions for monitoring Chemicals of Emerging Concern (CEC), in accordance with the State's Recycled Water Policy.

SUBTASK 3.6.1 BASIN PLAN UNDERSTANDING

To develop the Monitoring Plan the project team will summarize defined potential and existing beneficial uses and water quality objectives from the Water Quality Control Plan for the Los Angeles Region (Basin Plan). In addition, we will summarize the regulatory context of the groundwater basins.

SUBTASK 3.6.2 DEFINE HYDROGEOLOGY AND PHYSICAL DATA

The degree of complexity of an Salt and Nutrient Management Plan is dependent on several physical factors. The identification of these physical factors will be identified in previous tasks and summarized in the Monitoring Plan. We will specifically address the following factors:

- Hydrogeology/Aquifer uses
- Soil types
- Climate
- Land uses
- Water balance
- Water quality
- Salt and nutrient balances
- Dominant transport pathways

These components will be essential in designing a successful salt and nutrient groundwater Monitoring Program that is appropriate for the physical setting of the groundwater basins.

The Salt and Nutrient Management Plan will include an overview of hydrogeologic conditions of the USCR watershed including, but not limited to, groundwater flow and ambient groundwater characteristics, surface water drainage systems, and hydrostratigraphic units.

SUBTASK 3.6.3 DETERMINE SCALE AND FREQUENCY

The scale and frequency of the Monitoring Plan will be determined to provide a reasonable, cost-effective means of evaluating whether the concentrations of salts, nutrients, and other constituents of concern are consistent with water quality objectives defined in the Basin Plan and Title 22. The extent of monitoring is dependent upon site-specific conditions. These conditions will be determined by identifying:

- Existing monitoring wells (Task 3.3);
- Groundwater quality near supply wells and near proposed large recycled water projects (Task 3.4);
- Groundwater and surface waters where groundwater has connectivity with adjacent surface waters (if appropriate) (Task 3.5);

- Additional monitoring required to meet Salt and Nutrient Management Plan objectives that may not be covered under existing monitoring programs, to evaluate such as salts, nutrients, and other constituents of concern that adversely affect the groundwater quality.

A GIS map layer will be created to map areas of adequate monitoring and identify areas, if any, where increased monitoring coverage may be needed to meet the Monitoring Plan objectives. The frequency of monitoring will be determined and parties responsible for conducting, compiling, and reporting the monitoring data, will be identified wherever possible.

SUBTASK 3.6.4 IDENTIFY RESPONSIBLE PARTIES AND REPORTING VEHICLE

The monitoring plan will identify those parties responsible for conducting, compiling, and reporting the monitoring data. At present, no clear guidance has been given by the SWRCB for reporting data; however, stakeholders should expect this to be developed in future years.

SUBTASK 3.6.5 ADDRESS CONSTITUENTS OF EMERGING CONCERN (CEC)

The Policy has committed the SWRCB and California Department of Public Health to appoint a Science Advisory Panel to guide future CEC monitoring requirements for recycled water. The Panel is charged with answering specific water quality management questions. The outcome of this Science Advisory Panel will provide guidance on:

- CECs that should be monitored;
- Analytical methods/detection limits;
- Toxicology effects of listed CECs;
- Whether or not the CEC list should change based on type of treatment and recycled water use;
- Potential testing surrogates;
- CEC levels that would trigger additional monitoring.

Annual monitoring will likely be required to identify potential CECs. Past studies have recommended CEC testing based upon the following criteria:

- Occurrence in source water;
- Occurrence in recycled water;
- Removal via soil aquifer treatment;
- Removal via water/wastewater treatment;
- Most frequently prescribed pharmaceuticals;
- CECs that do not break down in the environment;
- CECs that show evidence of being carcinogenic, toxic, or could cause antibiotic resistance.

TASK 3.7: ANTI-DEGRADATION ANALYSIS

In this task, salt and nutrient sources that result in groundwater impacts will be further evaluated to determine the potential level of degradation, if any, occurring within the groundwater basins and the proximity to existing and future recycled water projects. The objective of the evaluation is to determine whether an anti-degradation analysis is required for a source or combination of sources, and to simplify the anti-degradation analysis if it is found that no significant degradation of groundwater quality is likely to occur. Under this task, the threshold for significant degradation will be defined. Further evaluation will be conducted only if potential significant degradation is likely based on the analysis. The following outlines the potential steps in the anti-degradation analysis:

1. Determine background groundwater quality (constituent-by-constituent);
2. If no significant degradation of groundwater quality compared to background, then no anti-degradation analysis is required;
3. If groundwater quality degradation is identified, then determine whether management practices meet best practicable treatment and control (BPTC);
4. If BPTC is not met, alter management practices to achieve BPTC;
5. Compare groundwater quality degradation identified to the significance threshold for groundwater quality degradation (see below);
6. If groundwater quality degradation is not significant, then stop. "The non-significant degradation is allowable and no further justification is needed";
7. If groundwater quality degradation is determined to be significant from initial assessments, then evaluate the need for additional groundwater characterization;
8. If the final determination is that groundwater quality degradation is significant, then a detailed anti-degradation analysis with socioeconomic justification is required. Nevertheless, water quality objectives must be met and beneficial uses must not be adversely affected.

This task will provide an estimated level of effort required to complete the anti-degradation analysis if it is determined that groundwater quality degradation is significant.

SUBTASK 3.7.1 DEFINE THRESHOLD OF SIGNIFICANCE

Some levels of degradation will be small enough that such "non-significant" degradation of groundwater quality is allowable given the benefit to the region and the state from the use of recycled water. The Policy, in the absence of an adopted Salt and Nutrient Management Plan, defines thresholds of significance for groundwater recharge and landscape irrigation projects in terms of use of available assimilative capacity (Sections 9(c)(1) and 9(d)(2), respectively). Available assimilative capacity is defined, constituent-by-constituent, as the difference between ambient background water quality (e.g., high quality water) and the minimum water quality required by Basin Plan. The thresholds of significance are: 1) less than 10 percent use of available assimilative capacity by a single project and/or 2) less than 20 percent use of available assimilative capacity by multiple projects.

TASK 3.8: PREPARE PLAN FOR SUBMITAL TO RWQCB

The Salt and Nutrient Management Plan will address the key issues identified in the approach and will integrate the elements discussed in Tasks 3.1 through 3.7.

There are essentially two parts to the Salt and Nutrient Management Plan: (1) recommendation of best management practices, and (2) development of a groundwater monitoring program.

SUBTASK 3.8.1 BEST MANAGEMENT PRACTICES

The Plan will categorize salt and nutrient contributors and evaluate practices related to salt and nutrient management. It will be critical to distinguish between historical mismanagement and current practices early in the Salt and Nutrient Management Plan and to acknowledge that localized degradation sources may be out of the RWMG's control.

This portion of the Plan will identify implementation measures to manage salt and nutrient loadings on a sustainable basis for the groundwater basins.

SUBTASK 3.8.2 GROUNDWATER MONITORING PROGRAM

Existing water quality data and the review of existing monitoring efforts will guide the development of a monitoring program. The goal of the Monitoring Plan will be to facilitate ongoing data collection (location, frequency, responsibility).

A work plan that presents a streamlined approach for utilizing existing data and filling in gaps, if any, will be developed. The characterization of the basin, evaluation of the potential for groundwater degradation, and the results of the anti-degradation analysis will provide the basis for the initial scoping of the Plan.

TASK 3.9: PROJECT MANAGEMENT

The primary objectives of the project management task are to: 1) ensure that project schedule and budget are met; 3) document project activities (progress reports and meetings); and 4) ensure that project work and deliverables meet quality objectives. Quality assurance and quality control measures shall be integrated into the project management system for all tasks.